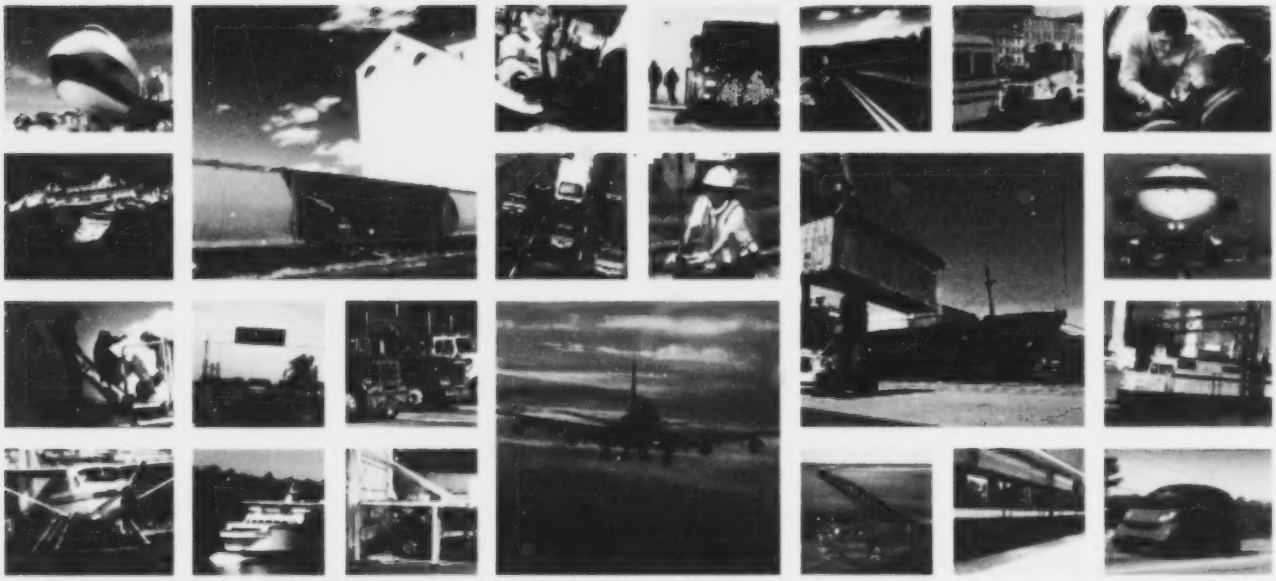
TP 13198E



Transportation in Canada 2005

Annual Report

Transport Canada Transports Canada

Canada

TP 13198E

Transportation in Canada 2005

Annual Report

Transport Canada · Transports Canada

Canada

© Minister of Public Works and Government Services, Canada, 2005

Cat. No. T1-10/2005E
ISBN 0-662-43397-1

Également disponible en français sous le titre « Les transports au Canada 2005 »

106-05315/

Minister of Transport,
Infrastructure and Communities

Ministre des Transports,
de l'Infrastructure et des Collectivités

Ottawa, Canada K1A 0N5

APR 20 2006

Her Excellency the Right Honourable Michaëlle Jean, C.C., C.M.M., C.O.M., C.D.
Governor General of Canada
Rideau Hall
1 Sussex Drive
Ottawa, Ontario
K1A 0A1

Excellency:

It is with great pleasure that I submit to your attention the tenth Annual Report on the state of transportation in Canada. This report is produced to conform with the statutory requirements spelled out in Section 52 of the *Canada Transportation Act*.

The year 2005 had its share of challenges and Canada's transportation system was not exempt. Pressure on Canada's transportation system came from rapidly increasing energy prices, the impact of rapidly growing economies like China on Canada's gateways and trade corridors, and the need to continue to enhance transportation's security. In a global supply-chain environment, our country's transportation system has to rapidly adjust to global integration forces requiring integrated efficiencies to sustain competitiveness.

The report presents an analysis of the most recent information available, and using that information, examines the role played by the Canadian transportation system in the production, distribution and consumption of material goods and services. It also examines the evolution of transportation demand and the response of the transportation system to changing needs and market conditions.

This tenth report on the state of the Canadian transportation system, as the previous reports, provides relevant information to policy and program decision-making.

Yours sincerely,

Lawrence Cannon

Hon. Lawrence Cannon, P.C., M.P.

TABLE OF CONTENTS

		Page
	Report Highlights	i
1.	**Introduction**	1
2.	**Transportation and the Economy**	3
	Canadian Economic Performance	3
	International Trade and Trade Corridors	5
	Areas of Importance to Transportation	8
	Productivity and Price Performance of Transport	10
	Importance of Transportation to the Canadian Economy	10
3.	**Government Spending on Transportation**	15
	Government Transportation Expenditures	15
	Total Transportation Revenues by Level of Government	18
	Overview of Expenditures and Revenues by Mode	18
4.	**Transportation Safety and Security**	21
	Transportation Safety	22
	Transportation Security	31
5.	**Transportation and the Environment**	37
6.	**Rail Transportation**	45
	Major Events in 2005	45
	Infrastructure	45
	Industry Structure	46
	Employment	46
	Energy	47
	Freight Transportation	47
	Passenger Traffic	50
	Price, Productivity and Financial Performance	50
7.	**Road Transportation**	53
	Major Events	53
	Infrastructure	55
	Industry Structure	56
	Passenger Transportation	61
	Freight Transportation	63
	Trucking Freight Transportation	65
	Price, Productivity, Financial Performance	68

TABLE OF CONTENTS (Cont'd)

Page

8. Marine Transportation 69
Major Events in 2005 69
Infrastructure 71
Marine Pilotage 74
Industry Structure 78
Passenger Transportation 80
Freight Transportation 81

9. Air Transportation 85
Major Events in 2005 85
Infrastructure 87
Industry Structure 88
Price, Productivity and Financial Performance 90
Freight Transportation 90
Passenger Transportation 91

LIST OF TABLES

	Title	Page
2.	**Transportation and the Economy**	
2-1:	General Economic Indicators, 2004/05	3
2-2:	Provincial Economic Growth, 2004/05	5
2-3:	International Travel, 2005	8
2-4:	Commercial Transportation as a Proportion of GDP, 2005	11
2-5:	Transportation Demand as a Proportion of GDP, 2005	11
2-6:	Commercial Transportation as a Per Cent of GDP by Province and Territories, 2004	12
2-7:	Personal Expenditures on Transportation by Province and Territory, 2004	12
3.	**Government Spending on Transportation**	
3-1:	Governments' Gross and Net Expenditures on Transportation, 2001/02 – 2005/06	15
3.2:	Federal Operating, Maintenance and Capital Expenditures, 2001/02 – 2005/06	16
3-3:	Direct Federal Subsidies, Grants and Contributions by Mode, 2001/02 – 2005/06	17
3-4:	Government Revenues from Transport Users, 2001/02 – 2005/06	18
3-5:	Transport Expenditure/Revenues by Mode And Level of Government, 2001/02 – 2005/06	19
4.	**Transportation Safety and Security**	
4-1:	Summary of Transportation Safety Statistics by Mode	23
4-2:	Public Perceptions of Aviation Security	31
6.	**Rail Transportation**	
6-1:	Railways in Canada, 2005	45
6-2:	Railway Rationalization in Canada	46
6-3:	Railway Revenues, 2003 and 2004	46
6-4:	Employment in the Rail Industry, 2003 and 2004	47
6-5:	Railway Output in Millions of Revenue Tonne-Kilometres, 2003 and 2004	47
6-6:	Railway Fuel Consumption, 2003 and 2004	47
7.	**Road Transportation**	
7-1:	Length of Public Road Network in Canada	55
7-2:	For-Hire Carrier Revenues by Activity Sector, 2000 – 2004	57
7-3:	Distribution of Total For-Hire Trucking Revenues by Size of Carriers, 2000 – 2004	58
7-4:	Bus Industry Revenues by Service Lines, 1997 – 2004	60
7-5:	Light Vehicle Fleet Statistics, 2004	61
7-6:	Light Vehicle Statistics by Province/Territory, 2004	62
7-7:	Light Vehicle Vehicle-Km Broken Down by Trip Origin, 2004	62
7-8:	Distribution of Vehicle-Km by Trip Purpose, Light Vehicles, 2004	62
7-9:	Light Truck Statistics, by Age of Truck, 2004	63
7-10:	Heavy Truck Fleet Statistics by Province/Territory, 2004	63
7-11:	Truck Statistics, by Configuration, 2004	64
7-12:	Truck Vehicle-Km by Detailed Configuration, 2004	64
7-13:	Use of Heavy Vehicles, 2004	64
7-14:	Heavy Vehicle Use by Type of Operation, 2004	65
7-15:	Share of For-Hire Trucking Traffic in Domestic Sector, 2003	66
7-16:	Twenty Largest Border Crossings for Trucks, 2001 – 2005	67
7-17:	Twenty Largest Border Crossings for Cars/Other Vehicles, 2001 – 2005	67
7-18:	Selected Provincial Systems Indicator for Urban Transit, 2004	68
8.	**Marine Transportation**	
8-1:	Port Classifications as of December 31, 2005	72
8-2:	SCH Fishing Harbours by Management Type and Region, as of December 31, 2005	74
8-3:	SCH Recreational Harbour Divestitures by Region as of December 31, 2005	74
8-4:	Recipients of Divested SCH Recreational Harbours as of December 31, 2005	74
8-5:	SCH Recreational Harbours by Management Type, as of December 31, 2005	74
8-6:	Pilotage Authority Financial Results, 2005	75
8-7:	Total Pilotage Assignments and Assignments Per Pilot, 2005	75
8.8:	Canadian Coast Guard Revenues and Expenditures, 2002/03 – 2005/06	76
8-9:	Canadian Coast Guard Planned Revenues and Expenditures, 2005/06	76

Title *Page*

8-10: St. Lawrence Seaway Cargo Movements, 2004 and 2005 77
8-11: St. Lawrence Seaway Traffic by Commodity, 2004 and 2005 77
8-12: St. Lawrence Seaway Financial Performance, 2002/03 to 2004/05 77
8-13: Canadian-Registered Fleet by Type, 1985, 1995 and 2005 78
8-14: Shipping Conferences Serving Canada in 2005 80
8-15: International Cruise Ship Traffic at Major Canadian Ports, 2004 and 2005 81
8-16: Canada's Marine Traffic Statistics by Sector, 2002 – 2004 82
8-17: Canada's Marine Domestic & International Traffic Handled For CPA's and Other Ports, 2003 – 2004 82
8-18: Total Marine Imports/Exports by Country (2004 vs 2003) 83
8-19: Value of Marine Share of Canadian International Trade, 2004 83

9. Air Transportation
9-1: Air Passenger Traffic, 2001 – 2005 91

LIST OF FIGURES

Title *Page*

2. Transportation and the Economy
2-1: Real GDP by Major Sector, 2000 – 2005 4
2-2: Real GDP: Canada and Other Regions, 2001 – 2005 4
2-3: Value of Goods Traded Between Canada and the United States, 1987 – 2005 6
2-4: Value of Goods Traded Between Canada and Other Countries, 1987 – 2005 6
2-5: Value of Goods Traded Between Canada and China (Peoples Republic), 1990 – 2005 7
2-6: Canada's Total Exports to Countries Other than the U.S., by Province of Origin and Export, 2005 7

3. Government Spending on Transportation
3-1: Government Expenditures and Revenues on Transportation, 1996/97 – 2004/05 16

4. Transportation Safety and Security
4-1: Public's Confidence Rating of the Safety and Security of Air, Rail, Marine and Road Travel 22
4-2: Accidents and Accident Rates per Activity Measure for Rail, Road, Marine and Aviation 24
4-3: Crossing and Trespasser Accidents, 1996 – 2005 25
4-4: TDG Reportable Accidents by Mode and at Transportation Facilities, 2000 – 2005 30
4-5: Public Perception of Marine Security 33

5. Transportation and the Environment
5-1: Total GHG Emissions by Sector, 1990 and 2003 38
5-2: Trends in Road Transportation GHG Emissions and Activity, 1990 – 2003 38
5-3: Non-Road Transportation GHG Emissions, 1990 – 2003 38
5-4: GHG Intensity of Energy End Use Sectors, 2003 39
5-5: Air Pollution Emissions from the Transportation Sector, 1990 – 2005 39

7. Road Transportation
7-1: Sales of Class 8 Trucks in Canada, 1990 – 2005 58
7-2: Total Revenues by Source – Urban Transit Sector, 2004 60
7-3: Long-Term Trend in Urban Transit, 1982 – 2004 60

8. Marine Transportation
8-1: Traffic Shares by Port Groups, 2004 73

List of Addendum Tables

The Addendum is available on Transport Canada's Web site at: www.tc.gc.ca.

	Title	Page
2.	**Transportation and the Economy**	
A2-1:	Modal Shares in Canada–United States Trade, 1995 – 2005	A6
A2-2:	Canada/ Other Countries Trade, by Mode and Sector, 1995 – 2005	A8
A2-3:	Canada–United States Trade by Province, 2004 – 2005	A8
A2-4:	Canada's Road Trade with the United States, by Busiest Border Crossing Points, 2005	A8
A2-5:	Canada–United States Trade, by Main Trade Flows, 2004 – 2005	A9
A2-6:	Canada's Exports by Origin, Destination, and Mode of Transport, 2005	A9
A2-7:	Canada's Imports by Origin, Destination, and Mode of Transport, 2005	A10
A2-8:	Canada's Exports by Main Countries, 2004 – 2005	A10
A2-9:	Canada's Imports by Main Countries, 2004 – 2005	A10
A2-10:	Canada's Merchandise Trade – Top 25 Partners, 2005	A11
A2-11:	Share of Canada's Total Exports Through Pacific Gateway, 2005	A12
A2-12:	Tourism Demand in Canada, 2001 – 2005	A13
A2-13:	Canadian Travel Account and Passenger Fares, 2001 – 2005	A14
A2-14:	Domestic Travel in Canada, 2000 – 2004	A15
A2-15:	Domestic Travel by Mode of Transport and by Purpose, 2004	A16
A2-16:	International Travel Summary, 2001 – 2005	A16
A2-17:	Visitors to Canada from Countries other than the United States, 2001 – 2005	A17
A2-18:	Overnight Visits to the United States by Canadians, by Selected States, 2003 and 2004	A18
A2-19:	Same Day Visits to the United States by Canadians, by Selected States, 2003 and 2004	A18
A2-20:	Overnight Visits by Canadians to Selected Countries other than the United States, 2003 and 2004	A18
A2-21:	Canada/United States Travel by Purpose of Travel, 2003 and 2004	A19
A2-22:	Overseas Travel by Purpose of Travel, 2003 and 2004	A19
A2-23:	Employment in the Transport Sector, 1999 – 2005	A19
A2-24:	Employment in the Rail Industry, 1999 – 2004	A19
A2-25:	Average Annual Compensation in the Rail Industry, 1999 – 2004	A20
A2-26:	Total Employment in the Trucking Industry, 1999 – 2004	A20
A2-27:	Employment in the Trucking Industry By Region, 1999 – 2004	A21
A2-28:	Average Weekly Earnings in the Trucking Industry, 1999 – 2005	A22
A2-29:	Employment in Taxi and Limousine Services by Province, 1999 – 2005	A22
A2-30:	Full-Time Employees in the Bus Industry, 1999 – 2004	A22
A2-31:	Urban Transit Employment by Region, 1999 – 2004	A22
A2-32:	Average Annual Salary in the Bus Industry, 1999 – 2004	A23
A2-33:	Employment by Canadian Port Authorities, 1999 – 2005	A23
A2-34:	Average Annual Employment in the Marine Transport Industry, 1997 – 2005	A23
A2-35:	Regional Distribution of Employment by Ferry Operators, 1999 – 2004	A24
A2-36:	Employment by Category, St. Lawrence Seaway Management Corporation, 1999 – 2005	A24
A2-37:	Employment by Canadian Pilotage Authorities, 1999 – 2005	A24
A2-38:	Employment by Maritime Employers Associations, 1999 – 2005	A24
A2-39:	Annual Labour Costs Per Employee, Canadian-Based Marine Carriers, 1996 – 2001	A25
A2-40:	Employment in the Air Industry, 1999 – 2004	A25
A2-41:	Employment – NAS Airports, 1999 – 2005	A25
A2-42:	Employment Related to Travel Arrangement and Reservation Services, 1999 – 2005	A26
A2-43:	Annual Labour Costs Per Employee of Canadian Air Carriers, 1999 – 2004	A26
A2-44:	Other Direct Transport-Related Employment, 1999 – 2005	A26
A2-45:	Transportation-Related Employment in Federal Departments and Agencies, 1999/00 – 2005/06	A27
A2-46:	Average Weekly Earnings in the Transportation and Warehousing Sector by Mode, 1999 – 2005	A27
A2-47:	Average Weekly Earnings in the Transportation and Warehousing Sector by Region, 1999 – 2005	A27
A2-48:	Labour Action by Mode of Transport, 1999 – 2005	A28
A2-49:	Total Energy Use in the Canadian Economy by Sector, 1993 – 2004	A28
A2-50:	Transportation Energy Consumption by Type and Mode, 1993 – 2004	A29
A2-51:	Transportation Energy Use by Province, 1993 – 2004	A30
A2-52:	Road Energy Consumption by Province, 1993 – 2004	A30
A2-53:	Aviation Energy Consumption by Province, 1993 – 2004	A30
A2-54:	Pipeline Energy Consumption by Province, 1993 – 2004	A31
A2-55:	Marine Energy Consumption by Province, 1993 – 2004	A31

	Title	Page
A2-56:	Rail Energy Consumption by Province, 1993 – 2004	A31
A2-57:	Crude Oil Prices – Canadian and US$ per barrel, 1991 – 2005	A32
A2-58:	Retail Price of Regular Unleaded Gasoline – Selected Cities, 1994 – 2005	A32
A2-59:	Retail Price of Road Diesel – Selected Cities, 1994 – 2005	A32
A2-60:	Components of the Retail Price of Road Fuels – 2005 National Averages	A33
A2-61:	Price of Other Transportation Fuels, 1991 – 2005	A33
A2-62:	Price and Output Indicators, Transport Industries, 2001 – 2004	A33
A2-63:	Efficiency Indicators, Transport Industries, 2001 – 2004	A34
A2-64:	Cost Structure of Transport Industries, 2001 – 2004, (Per Cent Of Total Costs)	A34
A2-65:	Financial Performance of Transportation Industries, 2002 – 2004	A35
A2-66:	Personal Expenditures on Transportation, 2005	A36

3. Government Spending on Transportation

A3-1:	Gross and Net Expenditures on Transportation by Governments, 1996/97 – 2005/06	A37
A3-2:	Operating, Maintenance and Capital Expenditures by the Federal Government, 1996/97 – 2005/06	A38
A3-3:	Direct Federal Subsidies, Grants and Contributions by Mode, 1996/97 – 2005/06	A39
A3-4:	Government Revenues from Transport Users, 1996/97 – 2005/06	A40
A3-5:	Transport Expenditure & Revenues by Mode and Levels of Government, 1996/97 – 2005/06	A41
A3-6:	Distribution of Provincial and Local Transport Expenditures by Province, 1995/96 – 2004/05	A42
A3-7:	Detailed Provincial/Territorial and Local Transport Expenditures by Mode by Province/Territory, 1995/96 – 2004/05	A43

4. Transportation Safety and Security

A4-1:	Summary of Transportation Safety Statistics for Aviation, Marine, Rail, Road and TDG, 1996 – 2005	A55
A4-2:	Railways Under Federal Jurisdiction, 2000 – 2005	A56
A4-3:	Railways Under Federal Jurisdiction, Accidents by Province, 2000 – 2005	A57
A4-4:	Railways Under Federal Jurisdiction, Crossing And Trespasser Accidents, 2000 – 2005	A58
A4-5:	Road Casualty Collisions, Fatalities and Injuries, with Rates (per 10,000 MVR and Billion Vehicle Kilometres), 1995 – 2004	A58
A4-6:	Road Casualty Rates (Fatalities and Injuries per Billion Vehicle Kilometres) by Province/Territory, 2003 and 2004	A59
A4-7:	Motor Vehicle Occupant Fatalities and Seat Belt Wearing Rates, 1988 – 2004	A59
A4-8:	Percentage of Fatally Injured Drivers Tested and Found to Have Been Drinking (BAC > 0 Mg%) and The Number of Persons Charged with Impaired Driving Offences, 1987 – 2004	A59
A4-9A:	Commercial and Other Vehicles Involved in Fatal Collisions by Vehicle Type, 2000 – 2004	A59
A4-9B:	Fatalities Resulting From Commercial and Other Vehicles Involved in Fatal Collisions by Vehicle Type, 2000 – 2004	A60
A4-10:	Fatalities by Road User Class, 2000 – 2004	A60
A4-11:	Vehicles Involved in Fatal Collisions by Vehicle Type, 2000 – 2004	A60
A4-12:	Marine Occurrences, 2000 – 2005	A61
A4-13:	Marine Occurrences by Region, 2000 – 2005	A62
A4-14:	Small Canadian Vessels Engaged in Commercial Activity Marine Occurrences, 2000 – 2005	A63
A4-15:	Small Canadian Vessels Engaged in Fishing Activity Marine Occurrences, 1995 – 2005	A63
A4-16:	Aviation Occurrences and Casualties Involving Aircraft Operating Under Cars, 2000 – 2005	A64
A4-17:	Summary of Aviation Occurrences Reported to the Transportation Safety Board, 1999 – 2004	A65
A4-18:	Canadian-Registered Aircraft Accident Rates for Aircraft Operating Under CARS, 2000 – 2005	A66
A4-19:	Accidents Involving Aircraft Operating Under CARS by Province, 2000 – 2005	A67
A4-20A:	Reportable Accidents Involving Dangerous Goods by Mode and Phase of Transport, 2000 – 2005	A68
A4-20B:	Deaths and Injuries Caused by the Dangerous Goods at Reportable Accidents Involving Dangerous Goods, 2000 – 2005	A68
A4-20C:	Total Deaths and Injuries at Reportable Accidents Involving Dangerous Goods, 2000 – 2005	A68

6. Rail Transportation

A6-1:	Railway Rationalization by Province, 1990 – 2005	A69
A6-2:	Railway Rationalization by Province, 2005	A69
A6-3:	Railway Revenues 1994 – 2004	A70
A6-4:	Railway Employment, 1994 – 2004	A70
A6-5:	Fuel Consumption, 1994 – 2004	A70
A6-6:	Revenue Tonne-Kilometres by Railway Sector, 1994 – 2004	A71

	Title	Page
A6-7:	Traffic Received And Forwarded by Canadian-Based Class II Carriers, 1996 – 2004	A71
A6-8:	Volume of Tonnage Carried by Railway Sector, 1994 – 2004	A71
A6-9:	Annual Railway Carloadings by Commodity, 1996 – 2005	A72
A6-10:	Volume of Rail Exports and Imports by Commodity, 1996 – 2005	A74
A6-11:	Value of Rail Exports and Imports by Commodity, 1996 – 2005	A74
A6-12:	Volume of Rail Exports by Province of Origin, 1996 – 2005	A75
A6-13:	Value of Rail Exports by Province of Origin, 1996 – 2005	A75
A6-14:	Volume of Rail Imports by Province of Clearance, 1996 – 2005	A75
A6-15:	Value of Rail Imports by Province of Clearance, 1996 – 2005	A76
A6-16:	Volume of Major Commodities Exported by Top 3 Provinces of Origin, 1996 – 2005	A76
A6-17:	Volume of Major Commodities Imported by Top 3 Provinces of Clearance, 1996 – 2005	A77
A6-18:	Value of Major Commodities Exported by Top 3 Provinces of Origin, 1996 – 2005	A77
A6-19:	Value of Major Commodities Imported by Top 3 Provinces of Clearance, 1996 – 2005	A78
A6-20:	Volume of Rail Exports by Port Cleared, 1996 – 2005	A78
A6-21:	Value of Rail Exports by Port Cleared, 1996 – 2005	A78
A6-22:	Volume of Rail Imports by Port Cleared, 1996 – 2005	A79
A6-23:	Value of Rail Imports by Port Cleared, 1996 – 2005	A79
A6-24:	Volume of Rail Marine Exports and Imports, 1996 – 2004	A79
A6-25:	Volume of Marine Exports by Place of Origin, 1996 – 2004	A79
A6-26:	Volume of Rail Marine Exports by Commodity, 1996 – 2004	A80
A6-27:	Volume of Rail Marine Imports by Destination, 1996 – 2004	A80
A6-28:	Volume of Rail Marine Imports by Commodity, 1996 – 2004	A80
A6-29:	Passenger and Passenger-Kms for VIA Rail And Class II Carriers, 1996 – 2004	A81
A6-30:	Commuter Rail Passengers in Toronto, Montreal, and Vancouver, 1994 – 2005	A81

7. Road Transportation

A7-1:	Annual Trucking Bankruptcies by Region, 1990 – 2005	A82
A7-2:	Distribution of Total For-Hire Trucking Revenues by Size of Carrier, 1991 – 2004	A82
A7-3:	Distribution of Total For-Hire Trucking Carriers, by Size, 1991 – 2004	A82
A7-4:	Total Revenues by Urban Transit Operators, 1996 – 2004	A83
A7-5:	Long-Term Trends in Urban Transit – Passengers Carried & Vehicle-Kilometres, 1982 – 2004	A83
A7-6:	Urban Transit Fleet Composition, 1996 – 2004	A83
A7-7:	Intercity and Urban Transit Passengers Carried in the Bus Industry, 1985 – 2004	A84
A7-8:	Value of Goods in Domestic Trade by Sector, 1997 – 2002	A84
A7-9:	Value of Goods in Domestic Trade by Province and Sector, 2002	A84
A7-10:	Value of Goods in Domestic Trade by Commodity Groups and Sector, 2002	A85
A7-11:	Interprovincial Trade (Goods) by Major Flows, 2002	A85
A7-12:	Canada's International Trade by Trucks, by Commodity Groups, 2004 – 2005	A85
A7-13:	Twenty Largest Border Crossings for Trucks, 2001 – 2005	A86
A7-14:	Twenty Largest Border Crossings for Cars/Other Vehicles, 2001 – 2005	A86

8. Marine Transportation

A8-1:	Number of Port Sites Under the Control and Administration of Transport Canada by Province, 1996 – 2005	A87
A8-2:	Divestiture Status of Transport Canada Regional/Local and Remote Ports	A87
A8-3:	Canada Port Authorities Financial Profiles, 2004	A88
A8-4:	CPA Financial Comparison, 2004 and 2003	A89
A8-5:	Financial Results of Major Ports, 2000 – 2004	A89
A8-6:	Financial Results for Transport Canada Ports, 1999/2000 – 2004/2005	A89
A8-7:	Total Tonnage Handled in Canada's Port System, 2003 – 2004	A89
A8-8:	Total Pilotage Assignments and Assignments Per Pilot, 1998 – 2005	A90
A8-9:	St. Lawrence Seaway Cargo Movements, 1990 – 2005	A90
A8-10:	St. Lawrence Seaway Traffic by Commodity, 1993 – 2005	A90
A8-11:	Overview of Major Ferry Services	A91
A8-12:	International Cruise Ship Traffic at Major Canadian Ports, 1992 – 2005	A93
A8-13:	Canada's Marine Traffic Statistics by Sector, 1986 – 2004	A93
A8-14:	Share of Tonnage Carried by Foreign-Flag Ships in the Canadian Coasting Trade, 1988 – 2004	A93

	Title	Page
A8-15:	Conference/Non-Conference Shares of Canadian Liner Trade, 1994 – 2003	A93
A8-16:	Canada's Maritime Trade with the United States, 1986 – 2004	A93
A8-17:	Canada's Overseas Maritime Trade, 1986 – 2004	A93
A8-18:	Total Marine Imports/Exports by Commodity, 2004	A94

9. Air Transportation

A9-1:	Airport Authorities Financial Performance, 2004	A95
A9-2:	Airport Capital Assistance Program Expenditures by Province, 1995/96 – 2005/06	A96
A9-3:	Airports Capital Assistance Program – Projects Approved in 2005	A97
A9-4:	Airport Improvement Fees at National Airport System (NAS) Airports, 2005	A98
A9-5:	Foreign Airlines Providing International Scheduled Services to and from Canada as of December 31, 2005	A99
A9-6:	Local Service Airlines Providing Scheduled Air Services as of December 31, 2005	A100
A9-7:	Licence Authorities Held by Air Carriers as of December 31, 2004 vs 2005	A101
A9-8:	Summary of Personnel Licences and Permits as of December 2005	A101
A9-9:	Personnel Licences and Permits by Province, as of December 31, 2005	A101
A9-10:	Profile of the Recreational Aviation Fleet as of December 31, 2005	A101
A9-11:	Volume of Goods Carried by Canadian Air Carriers by Sector, 1993 – 2004	A102
A9-12:	Operating Goods Revenues of Canadian Air Carriers by Sector, 1993 – 2004	A102
A9-13:	Value of International Goods Shipped by Air, 1995 – 2005	A102
A9-14:	Air Exports and Imports by World Region, 2004 and 2005	A102
A9-15:	Canada's Air Merchandise Trade – Top 25 Partners, 2005	A103
A9-16:	Main Commodity Groups Shipped by Air in Canada's International Trade, 2004 and 2005	A103
A9-17:	Enplaned/Deplaned Revenue Passengers, 2004	A104
A9-18:	Changes to Domestic Scheduled Air Services in 2005	A105
A9-19:	Changes to Transborder Scheduled Air Services in 2005	A105
A9-20:	Changes to International Scheduled Air Services in 2005	A106
A9-21:	Average Scheduled Daily Seat-Kilometres by Region, Domestic Sector December 2004 and 2005	A106
A9-22:	Average Scheduled Daily Seat-Kilometres by Region, Domestic Sector December 2004 and 2005	A107
A9-23:	Competition in Domestic Air Markets as of December 31, 2005	A108

List of Addendum Figures

	Title	Page

6. Rail Transportation

A6-1:	CN and CPR Intermodal Traffic, 1996 – 2004	A73
A6-2:	Origin and Destination of CN and CPR North American Intermodal Traffic, 1996 – 2004	A73
A6-3:	Segment Share of Rail Intermodal Traffic, 1996 – 2004	A73
A6-4:	CN and CPR Container-On-Flat-Car and Trailer-On-Flat-Car Growth, 1996 – 2004	A73

REPORT HIGHLIGHTS

TRANSPORTATION AND THE ECONOMY

- In 2005, the Canadian economy continued to fare well, with gross domestic product (GDP) growing by 2.9 per cent in real terms.
- Consumer expenditures, business investment and government spending all contributed to this economic growth.
- During the course of the year, energy prices, interest rates and the value of the Canadian dollar all rose.
- The Canadian dollar rose by an average of 7.4 per cent against the U.S. dollar, reflecting a decline of the value of the U.S. dollar and an increase in commodity prices.
- The value of the Canadian dollar fell in the first part of the year, then rose to a 13-year high of US$0.863 at the end of the year.
- The consumer price index (CPI) increased by 2.2 per cent in 2005. Energy prices and homeownership replacement costs rose by 9.7 and 5.2 per cent, respectively. Transportation prices rose 4.1. per cent as gasoline prices increased by 12.8 per cent.
- In real terms, personal disposable income per capita increased by 1.5 per cent in 2005.
- Canada's population grew by 0.9 per cent, while employment increased by 1.4 per cent.
- All provinces and territories experienced economic growth in 2005, with western Canada faring better than central and eastern Canada.
- Canada's trade with the United States increased by four per cent. China surpassed Japan and Mexico as a source of imports into Canada.
- Trucking accounted for 60 per cent of trade with the United States, rail 17 per cent, pipeline 11 per cent, air six per cent and marine three per cent.
- Almost 76 per cent of Canada–U.S. trade (in value terms) carried by trucks took place at six border crossing points: Windsor/Ambassador Bridge, Fort Erie, Sarnia, and Lansdowne in Ontario, Lacolle in Quebec, and Pacific Highway in British Columbia.
- In 2005, Canada's trade with countries other than the United States totalled $233 billion. Imports were more significant than exports and, in terms of both value and volume, marine and air transportation were the two dominant modes for this trade.
- Of Canada's top 20 trade partners in 2005, five countries had a two-digit average annual growth rate in their trade with Canada from 1995 to 2005.
- In 2005, China ranked second ($29.4 billion) and fourth ($7.1 billion) respectively in terms of Canada's total imports and exports.
- Tourism expenditures, including expenditures on transportation, were up in 2005. Air transportation expenditures rose 13.5 per cent. Both interprovincial and intraprovincial domestic travel were up in 2005.
- Transportation energy use increased by 3.5 per cent in 2004. While pipelines used 6.5 per cent less energy, marine and air used 10.9 and 9.7 per cent more, respectively, in 2004 than in 2003. Rail used 1.7 per cent more energy, compared with 3.5 per cent more used by road transportation.
- In 2005, increases in energy prices affected carriers' operating costs and transport service prices.
- Productivity gains in rail and air transportation in 2004 were due largely to labour productivity improvements. Average price increases for most transportation services were below inflation.

- In 2005, commercial transportation services accounted for 4.2 per cent of Canada's value-added GDP.
- In 2004, the importance of transportation to provincial/territorial GDP was most significant in Ontario and Quebec. Together, these provinces contributed 58 per cent of commercial transportation activity nationally under GDP.
- Investment in transportation accounted for 2.8 per cent of Canada's GDP in 2005.
- Overall transportation-related final demand accounted for 12.5 per cent.

GOVERNMENT SPENDING ON TRANSPORTATION

- In fiscal year 2004/05, all levels of government combined spent $21.9 billion on transportation expenditures net of transfers, $1.5 billion more than in 2003/04. Federal, provincial and local government expenditures all increased. The largest increase was $1.1 billion, spent by provincial/territorial governments.
- In 2004/05, all government levels collected $15.6 billion in permit and licence fees and fuel taxes from transport users, 1.5 per cent more than the previous year.
- In 2005/06, direct federal transport expenses are expected to fall to $2 billion, a drop of 3.4 per cent from 2004/05. The federal government's two main categories of transportation expenditures are a) operations and b) safety, security and policy activities.
- In 2005/06, total direct federal subsidies, grants and contributions are expected to grow to $129.4 million, 46.2 per cent more than in 2004/05.
- Provincial, territorial and local governments spent $18.9 billion on transportation in 2004/05, roughly 6.6 per cent more than in 2003/04. About 80 per cent of this went to highways and roads.
- In 2004/05, governments spent $15.7 billion on roads and $2.7 billion on public transit services. Federal and provincial governments spent $2.4 billion on air, marine and rail transportation.

TRANSPORTATION SAFETY AND SECURITY

- A recent public opinion survey indicated that in the case of all four transportation modes, over 95 per cent of Canadians give transportation in Canada either a *moderately* or a *very safe and secure* rating.
- In 2005, Transport Canada maintained its regulatory and safety oversight responsibilities, implemented a number of improvement initiatives, and continued to implement Safety Management Systems in the air, rail and marine industries. In 2005, there was an increase in the number of aviation and rail transportation accidents and a decrease in marine accidents. There were fewer road and marine transportation fatalities; however, there was an increase in both aviation and rail transportation fatalities.
  - Rail-related accidents increased from 1,138 in 2004 to 1,249 in 2005. Rail-related fatalities increased from 101 to 103. Fatalities due to trespasser accidents decreased from 68 to 63. Crossing accidents at public automated crossings increased from 117 to 161, while at public passive crossings they increased from 65 to 73.
  - In 2004 (latest data), there was a 3.6 per cent decrease in road casualty collisions, a 1.3 per cent decrease in road-related fatalities and a 4.5 per cent decrease in road-related injuries.
  - There were 405 Canadian vessel accidents in 2005, down from 441 in 2004. As in previous years, the majority of marine accidents were shipping accidents. A total of 12 lives were reported lost in 2005, down from 21 reported the year before and below the previous five-year average of 15.4. A total of 22 confirmed vessel losses were reported. Fishing vessels accounted for 55 per cent of the total reported marine accidents, while commercial vessels accounted for 34 per cent.
  - There were 245 Canadian-registered aircraft involved in reported accidents, compared with 241 in 2004. Of these, 107 involved commercially operated aircraft, while the remaining 138 were associated with recreational aviation. Of the five commuter operations accidents reported in 2005, one was fatal. Of the 55 accidents related to air taxi operations, seven were fatal accidents causing 10 fatalities.

  - In a context of approximately 30 million shipments of dangerous goods a year, a total of 412 accidents in the transportation of dangerous goods were reported in 2005, up from 370 in 2004. Also in 2005, seven fatalities and 41 injuries resulted from accidents involving dangerous goods. Of these, six injuries and no fatalities were directly associated to the dangerous goods themselves.
- Transportation security continued to be strengthened in Canada in 2005. Transport Canada continued to take action with other federal departments, other countries and international organizations, labour organizations, industry and other stakeholders.
  - Important aviation security initiatives in 2005 included legislative and regulatory enhancements, programs such as the Aviation Transportation Security Clearance, and international initiatives.
  - The development of a national marine security regime was pursued through regulatory enhancements, inspection and enforcement, the Marine Security Contribution Program, and the work of the Interdepartmental Marine Security Working Group.
  - Following the March 2004 train bombings in Madrid, Spain, a rail and transit intelligence sharing network was developed for Canada. In 2005, an Action Plan was announced to address security priorities and to enhance security for passenger rail, public transit and ferry operations.
  - In 2005, Transport Canada continued to work with others on the development of a National Critical Infrastructure Protection (CIP) Strategy. Transport Canada continued to enhance its ability to prepare for and respond to emergencies and crises.
  - Transport Canada continued to share information and best practices, increasing its capabilities to respond in the event of an incident in relation to the Chemical, Biological, Radiological, and Nuclear (CBRN) Response Project for the transportation of dangerous goods.

TRANSPORTATION AND THE ENVIRONMENT

- In 2003, 25.7 per cent of greenhouse gas (GHG) emissions in Canada came from the transportation sector: 74 per cent from road transportation, four per cent from domestic aviation, three per cent from rail and three per cent from marine. Off-road and pipelines accounted for the remaining 16 per cent of total transportation-related GHG emissions.
- Between 1990 and 2003, GHG emissions from on-road passenger travel increased by roughly 14 per cent; from on-road freight transport activity, they increased by 60 per cent. The passenger and freight transport activities over the same period increased by 23 and 120 per cent, respectively. This indicates that activity levels and GHG emissions had not tracked each other.
- Over the same period:
  - aviation GHG emissions grew by 17 per cent;
  - rail emissions dropped by about 17 per cent, despite a 30 per cent traffic growth; and
  - marine emissions decreased by four per cent.
- In 2005, on-road and off-road diesel engines accounted for roughly 70 per cent of transportation-related $PM_{2.5}$ emissions and 54 per cent of transport-related NO_x emissions. Gasoline engines accounted for 87 per cent of transportation-related VOC emissions. Marine transportation accounted for 41 per cent of transportation-related SO_x emissions due to its use of a mix of diesel and heavy fuel oil. Since 1990, overall emissions of all these pollutants have declined.
- The voluntary Memorandum of Understanding between Environment Canada and the Railway Association of Canada on rail emission controls expired on December 31, 2005.
- The use of glycol, a fluid used to de-ice aircraft surfaces for safety purposes prior to flight departures, was reviewed in 2005.
- On April 5, 2005, the Government of Canada and the Canadian automobile industry signed an agreement whereby the carmakers will voluntarily work to reduce annual GHG emissions from light vehicles by 5.3 Mt in 2010.

- With respect to federal transportation-related initiatives:
  - As of December 2005, the Advanced Technology Vehicles Program assessed 126 vehicles for their fuel efficiency, emissions and safety performance, including the Mercedes-Benz Smart Car. In addition, 7.1 million Canadians have been reached through 145 special events undertaken to showcase and raise public awareness of advanced technology vehicles.
  - Approximately $1.85 million were allocated in 2005 to 14 new demonstration projects under the Freight Sustainability Demonstration Program, one of the three components of the Freight Efficiency and Technology Initiative.
  - An agreement was signed in June 2005 with the Air Transport Association of Canada to voluntarily improve energy efficiency and so reduce GHG emissions by an average of 1.1 per cent a year.
  - In 2005, $2.2 million were allocated under the Freight Incentive Program to ten projects aimed at purchasing and installing efficiency-enhancing modal transportation technologies and equipment.
  - Halifax, Waterloo, Toronto/Hamilton, Whitehorse and Vancouver received some support for their innovative community-based projects encouraging more sustainable transportation under the Moving on Sustainable Transportation program.
  - In 2005, a total of 27 projects were ongoing under the Moving on Sustainable Transportation Program.

RAIL TRANSPORTATION

- The rail system network remained relatively stable in 2005. The only track discontinuances (89 kilometres) were in Saskatchewan and Alberta made by Canadian Pacific Railway (CPR).
- Approximately 341 kilometres of track were transferred in 2005, and an additional 339 kilometres was the object of a reversion back to CN.
- Of total rail revenues in 2004, 90 per cent were generated by CN, CPR and VIA Rail.
- Class I railways consumed 2.1 billion litres of fuel in 2004, slightly more than in 2003 but less than in 1990.
- CN reported a five per cent increase in revenue tonne-kilometres in 2004, while CPR's output increased by almost 8.7 per cent.
- In 2005, rail car loadings increased five per cent to reach 284 million tonnes. In western Canada, volumes moved by rail increased five per cent to reach 157 million tonnes. In eastern Canada, volumes moved increased by four per cent to reach 128 million tonnes.
- Shipments of coal and coke increased to 35 million tonnes in 2005, chemicals decreased four per cent to 15.3 million tonnes, iron ore increased to 32 million tonnes, and forest products increased slightly to 50 million tonnes. Grain shipments totalled almost 27 million tonnes, still below the volumes reported in the 1990s, while rail shipments of fertilizer materials held steady in 2005 at 30.1 million tonnes, and automotive products fell almost six per cent to 4.9 million tonnes.
- Export rail tonnage decreased 0.3 per cent in 2005 to 76.4 million tonnes.
- Forest products and chemicals were the largest contributors to the rail export tonnage.
- The largest share of rail export volume to the United States originated in Ontario (23 per cent).
- In 2005, import rail tonnage increased by 15 per cent to 24.6 million tonnes. Imports of metals increased significantly. Automotive imports increased by 3.4 per cent.
- Fort Frances and Sarnia, both in Ontario, accounted for 20.2 and 16.2 per cent of rail-exported trade, respectively. Forest products and chemicals were the major commodities exported at these border crossings. In terms of value, the leading border crossing points for imports were Sarnia and Windsor, with automotive products topping the commodities exported through these locations.
- Class I railways moved 97.6 million tonnes of goods to and from Canadian ports in 2004, up significantly from the 83 million in 2003.
- British Columbia, Saskatchewan and Alberta experienced increases in rail–marine exports in 2004. Coal, forest products, grain, and fertilizer exports all increased. Rail–marine imports increased by 10.9 per cent in 2004, and Quebec and Ontario remained the two major destinations for this traffic.
- Intercity rail passenger traffic increased slightly in 2004. VIA Rail reported 2.6 per cent more passengers carried.
- The productivity of rail freight carriers increased by 2.8 per cent in 2004, while VIA Rail's productivity increased by 3.2 per cent.

ROAD TRANSPORTATION

- In September 2005, the Council of Ministers Responsible for Transportation and Highway Safety adopted a criteria-based National Highway System (NHS) made up of three categories of route types: Core, Feeder, and Northern and Remote. As a result of this decision, the NHS totalled 38,021 kilometres.
- On June 29, 2005, the date that the revised *Motor Vehicle Transport Act* (MVTA) would come into force was fixed by an Order published in the *Canada Gazette* Part II at January 1, 2006. On that same day, the Motor Carrier Safety Fitness Certificate Regulations also come into force, allowing the provinces and territories to monitor the safety performance of all extra-provincial motor carriers licensed in their jurisdictions. Revisions to the Federal Hours of Service Regulations for extra-provincial commercial vehicles (bus and truck) drivers were published in the *Canada Gazette* Part II on June 29, 2005 and will come into force on January 1, 2007.
- Heavy trucks crossing the Canada–U.S. border decreased about one per cent in 2004.
- TransForce Income Fund topped the list of for-hire trucking companies in Canada for total number of vehicles (tractors/trailers) in their fleet.
- Trucking firms carrying general freight accounted for almost 60 per cent of total revenues of large for-hire trucking firms in 2004, while the share of specialized trucking firms increased marginally.
- According to the 2004 Canadian Vehicle Survey, there are 17.7 million (in scope) light vehicles (i.e. gross weight less than 4,500 kilograms) in Canada. This includes 10.1 million passenger cars and station wagons, 2.8 million vehicles listed as vans, 3.4 million pickup trucks and 1.7 million sport utility vehicles (SUVs).
- Vans, SUVs and light trucks accounted for 45 per cent of vehicle-kilometres in 2004. They were driven on average more than cars and station wagons (17,000 versus 15,300 kilometres) and had a marginally higher vehicle occupancy ratio (1.75 persons) compared with 1.57 for cars and station wagons.
- In 2004, for the category of light vehicles, cars and station wagons accounted for 154 billion vehicle kilometres while vans and light trucks accounted for 128 billion.
- In 2004, there was an average of 555 vehicles per 1,000 people in Canada.
- According to the Canadian Vehicle Survey, there were 600,000 (in scope) heavy trucks (gross weight of at least 4,500 kilograms) in Canada, of which 325,000 were medium-sized, weighing between 4,500 and 15,000 kilograms. Almost 277,000 were Class 8 (heavy) trucks, weighing more than 15,000 kilograms.
- Ontario (37 per cent), Alberta (25 per cent) and Quebec (13 per cent) accounted for 75 per cent of the heavy truck fleet.
- Heavy trucks accounted for 20 billion vehicle-kilometres in 2004, compared with seven billion for medium-sized trucks.
- Empty haul movements accounted for 14 per cent of heavy truck vehicle-kilometres in 2004, compared with about six per cent for medium-sized trucks.
- More than two thirds of all truck vehicle-kilometres were driven intraprovincially.
- In 2004 and 2005, the exports from Canada shipped by trucks totalled $186.7 billion and $188.8 billion, respectively. The imports from the U.S. shipped by trucks amounted to $162.6 billion in 2004 and $164.5 billion in 2005.
- In domestic activities, construction materials are the top commodities moved by trucks intraprovincially, followed by agricultural products, primary metals, metal and mineral products, and energy products.
- The main interprovincial trucking flow was the Quebec–Ontario route (both directions) accounting for $41 billion worth of commodities or 30 per cent of the total interprovincial trade.
- Five commodity groups represented almost 80 per cent of total exports in 2004 and in 2005: automobiles and transport equipment, machinery and electrical equipment, other manufacturing products, plastics and chemical products, and base metals/articles of base metal. The same five commodity groups represented almost 88 per cent of imports.
- The busiest transborder trucking routes were Ontario–U.S. central region, Ontario–U.S. south region, and Ontario–U.S. northeast region, the three together accounted for almost 80 per cent of the shipments.
- Heavy truck activity across the Canada–U.S. border fell about one per cent in 2005 to 13.3 million two-way trips.
- The revenues of urban transit operators increased by 6.2 per cent in 2004. Overall, total transit output in Canada increased by 2.7 per cent, while prices rose by 3.4 per cent.
- In 2004, total factor productivity of transit systems decreased by 0.9 per cent.

MARINE TRANSPORTATION

- The National Marine and Industrial Council — an industry–government forum — was established in 2004 to enhance dialogue between the federal government and the marine industry, to promote linkages and coordination on marine sector initiatives, and to provide cohesiveness across a core group of federal departments with mandates and interests in marine transportation. The Council has held bi-annual meetings since its establishment.
- By 2005 year-end, 87 regional/local and remote ports and port facilities remained under Transport Canada's control.
- Total operating revenues of Canada Port Authorities (CPA), which are financially self-sufficient ports critical to domestic and international trade, reached $310 million in 2004, up 3.4 per cent from 2003. Vancouver and Montreal accounted for roughly 55 per cent of this total.
- Tonnage handled at CPA ports totalled 237 million tonnes of cargo in 2004.
- In 2004, CPAs handled 52 per cent of total port traffic.
- Of all fishing harbours, 682 were managed by harbour authorities at the end of 2005, while 322 were small craft harbours managed by the Department of Fisheries and Oceans Canada.
- Three of the four pilotage authorities experienced a deficit in 2005, a loss of less than $4 million, somewhat less than the one reported in 2004.
- The Canadian Coast Guard's net expenditures in 2004/05 were $502.9 million.
- The two main sections of the St. Lawrence Seaway — the Montreal–Lake Ontario section and the Welland Canal section — attracted an estimated 43 million tonnes of traffic in the 2004 season, basically the same volume as in 2004.
- In 2005, international cruise ship traffic decreased at Vancouver as well as at the four Eastern Canada ports served by cruise ships: Montreal, Quebec City, Halifax and Saint John.
- In 2004, marine freight traffic was estimated at 387 million tonnes, up 3.2 per cent from 2003. This total is made up of 69.4 million tonnes related to domestic flows, 128.6 million tonnes to transborder traffic and 189 million tonnes of other international traffic.
- A total of $117.5 billion in trade was handled by marine transportation services, $63.4 billion in imports and $54.1 billion in exports.
- The value of Canadian international marine trade in 2004 was $117.5 billion, including shipments via U.S. ports, a 9.3 per cent increase over 2003.

AIR TRANSPORTATION

- Jetsgo ceased operations on March 11, 2005.
- On May 9, 2005, a new rent policy was announced for federally owned airports, providing close to $8 billion of rent relief for Canada's airport authorities over the course of existing leases.
- On November 10, 2005, the Government of Canada and the United States further liberalized the 1995 Canada–U.S. Air Transport Agreement, liberalizing access for air carriers to the other country's third country markets.
- Effective March 1, 2005, the Air Travellers Security Charge, introduced to fund the costs of the enhanced air travel security system put in place after the September 11, 2001, terrorist attacks, was further reduced to $5 for one-way domestic travel, $8.50 for transborder travel and $17 for other international air travel.
- Under the Multiple Designation Policy, the Minister of Transport in 2005 announced that Air Transat was to serve Greece, and Skyservice would serve Russia.
- In 2005, new air bilateral agreements were negotiated with the People's Republic of China, Greece and India.
- Negotiations with France and Panama were inconclusive.
- In 2005, a total of 64 projects at 48 airports were announced under the Airports Capital Assistance Program.
- Several large airports experienced increases in passenger volume handled in 2004, yet operating revenue performance for airport authorities was mixed, as one third experienced declined revenues, and one third experienced increases of more than 10 per cent.
- Air Canada, with its subsidiaries, remained Canada's largest airline in 2005, with $9.5 billion in revenues between October 1, 2004, and September 30, 2005, and serving 12 points in Canada, 33 in the United States and 59 internationally. The Air Canada family of companies includes Jazz operating on less busy domestic and transborder routes, Air Canada Vacations offering tour packages, and Jetz offering premium charter services to sport teams and businesses. Three independent local service operators offered regional services on behalf of Air Canada: Air Georgian, Exploits Valley Air Services and Central Mountain Air.

- Low-cost, no-frills carriers offering domestic and transborder services in 2005 included WestJet, and CanJet.
- Canadian leisure carriers providing international services to leisure destinations in ?005 included Air Transat, Skyservice Airlines, and Harmony Airways.
- Airlines providing year-round scheduled and charter services across northern Canada included First Air, Canadian North and Air North. Aklak Air, Kenn Borek Air and North-Wright Airways complement the other airlines by offering flights to the most remote communities in the Arctic.
- Twenty-five U.S. airlines served 20 Canadian cities, and 43 foreign airlines provided services from Canada to 57 international destinations in 39 countries.
- A number of all-cargo airlines provided jet service in 2005 on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers: Cargojet Canada, Kelowna Flightcraft and Morningstar Air Express.
- At the end of 2005, more than 2,300 airline licences were active, an indication of the wide number of airlines operating in Canada.
- The business segment of air activity continued to grow in 2005, mainly as a result of fractional ownership.
- Canada's air trade with countries other than the United States increased significantly in 2004.
- The number of tonnes carried by Canadian air carriers increased by five per cent in 2004.
- Air passenger traffic in 2005 set record levels at over 63 million passengers, six per cent more than in 2004. Domestic traffic grew by four per cent, while the transborder and international sectors grew by seven per cent.

INTRODUCTION 1

The 2005 Annual Report presents the state of transportation in Canada using the most current information available.

In the *Canada Transportation Act* (1996), a statutory responsibility exists for the Minister of Transport to table, every year, an annual report on the state of transportation in Canada. Section 52 of the Act defines the mandate and the nature of this responsibility:

"Each year the Minister of Transport shall, before the end of May, lay before Parliament a report briefly reviewing the state of transportation in Canada in respect of the preceding year, including:

(a) the financial viability of each mode of transportation and its contribution to the Canadian economy and the development of the regions;

(b) the extent to which carriers and modes of transportation were provided resources, facilities and services at public expense;

(c) the extent to which carriers and modes of transportation received compensation, indirectly or directly, for the resources, facilities and services that were required to be provided as an imposed public duty; and

(d) any other transportation matters the Minister considers appropriate."

This annual report, *Transportation in Canada 2005*, is the tenth submitted by the Minister since the *Canada Transportation Act* came into force. To produce this document, the most current data and information available was used to present an overview of transportation in Canada. It is important to note that data for 2005 was not always available. While the scope of the report goes beyond federal transportation responsibilities, urban and intermodal transportation matters receive limited coverage. Nevertheless, the document offers broad and comprehensive coverage of the country's transportation system.

An Addendum, posted on Transport Canada's Web site, contains more detailed information on subject matter covered in the report. Readers interested in more detailed and/or greater time series information are invited to consult this Addendum at www.tc.gc.ca. Individual references to the Addendum are found either in the main text of the report or in footnotes to the tables and figures. Information contained in tables or used to produce figures in last year's report are either updated in the report or found in tables in the Addendum. In addition, all annual reports since 1996 are accessible on Transport Canada's Web site at www.tc.gc.ca.

Transportation is omnipresent in all social and economic activities. It opens markets to natural resources, agricultural products and manufactured goods, it supports service industries, and it alleviates the challenges delimited by topography. Transportation also links communities and reduces the effects of the distances separating people from each other. Such essential roles of transportation are indicative of transportation's intertwined and interdependent relationships with the economic and social fabric of our society. However, transportation needs evolve over time as circumstances and conditions change.

Changes in economic activities impact transportation demand. The changes can take place at various levels, such as at the regional or sectoral level. It is important to remind ourselves that the demand for transportation services is a derived demand and originates from all sectors of the economy.

1 INTRODUCTION

The review of the state of transportation starts with a review of the performance of the Canadian economy (Chapter 2). Detailed information related to employment, trade and tourism can be found in the Addendum. Detailed information on transportation energy consumption is also accessible in the Addendum.

Chapter 3 presents the most recent information on government transportation spending and revenues. This chapter addresses the Section 52 (b) requirement related to the statutory mandate for the annual report. Some of the government transportation spending is directed at specific transportation system infrastructure assets. Although the private sector also makes expenditures on and investments in Canada's transportation system, these are not covered in this chapter. The reader must keep in mind that the public sector does not plan nor fully control all such expenditures and investments.

In Chapter 4, a review of safety and security in the transportation system is presented. The safety of the country's transportation system remains a fundamental priority for Canada. The most recent accident and incident statistics by mode are reported in the chapter, providing an up-to-date overview. The more recent enhancements to security since the events of September 11, 2001, are also covered in this chapter.

Chapter 5, a review of transportation and the environment, devotes special attention to environmental trends in transportation, including the aspects related to climate change. An overview of the climate change initiatives is presented. This chapter also reviews environmental management-related matters associated with Transport Canada responsibilities and activities.

Chapters 6 to 9 give the most recent information on transportation by modes. Rail (Chapter 6), marine (Chapter 8) and air transportation (Chapter 9) cover special events in 2005, infrastructure, industry structure, freight and passenger transportation activity levels, and, where applicable, intermodalism and performance. All road-related transportation is regrouped in Chapter 7, with coverage of the same subject matter that can be found in the three modal chapters.

Most of the data presented in this report or in the Addendum came from organizations other than Transport Canada. The onus for data validation rests with such external sources. Proper care and attention to data quality and limitations was taken during the production of this report, and footnotes are used where needed to flag issues. When issues were identified, they were flagged to the source of the information and if the validity of the information was confirmed, the issue was not pursued further given the constraint of the statutory deadlines under which the report has to be produced. With only a few exceptions, which are noted, no attempts were made to circumvent data limitations by estimating. Finally, this report does not attempt to present a prospective view of Canada's transportation system.

TRANSPORTATION AND THE ECONOMY 2

The most significant source of economic growth in 2005 came from consumer expenditures.

CANADIAN ECONOMIC PERFORMANCE

The Canadian economy continued to perform well in 2005 as real gross domestic product at market prices grew 2.9 per cent, the same rate as in the previous year. Growth was strongest in the second and third quarters. During the year, energy prices, interest rates and the value of Canadian dollar all rose. Consumer expenditures, business investment and government spending all provided strength, while net exports were a drag on the economy as imports grew twice as fast as exports. High commodity prices resulted in strong growth in the resource rich western provinces while the high value of the Canadian dollar hurt the manufacturing sector in the central provinces.

Consumer expenditures increased 4.0 per cent, the largest increase since 2000, and contributed the most to economic growth. Retail sales were 6.3 per cent higher in 2005 than in 2004 when they increased 4.7 per cent. New motor vehicle sales increased 3.5 per cent in 2005, the first increase since 2002, as purchasers responded to "employee pricing" offers and other incentives. New housing starts numbered 233,900, down 4.1 per cent from 2004 but still the second highest since 1988. Investment in residential construction rose 3.3 per cent, less than half the 8.3 per cent increase in 2004, while investment in non-residential structures increased 6.8 per cent, up sharply from the 0.8 per cent last year. Investment in machinery and equipment was strong for the third year in a row as it rose 10.7 per cent in 2005. Overall business investment increased 6.9 per cent the same as the previous year. Government spending on goods and services rose 2.8 per cent while investment by government rose 4.2 per cent. The international sector once again was a weakness as exports of goods and services increased 2.3 per cent in real terms while imports increased 7.0 per cent compared with increases of 5.0 per cent and 8.1 in 2004.

Table 2-1 shows economic indicators in Canada for 2005.

TABLE 2-1: GENERAL ECONOMIC INDICATORS, 2004/05

	2005	*Percentage change 2004 – 2005*	*Annual percentage change 1999 – 2004*
GDP at Basic Prices (millions of constant 1997 dollars)			
Total Economy	1,079,342	3.2	3.1
Goods	341,245	3.0	2.6
Agriculture	14,296	5.8	(2.3)
Forestry	7,180	(0.3)	4.2
Mining	41,193	1.9	3.3
Manufacturing	185,217	2.4	2.3
Construction	63,341	4.6	5.5
Services	738,097	3.3	3.4
Retail trade	63,092	4.6	4.9
Transportation	45,195	4.3	2.5
Merchandise Trade (millions of dollars)			
Exports	453,404	5.7	3.1
Imports	386,749	6.5	2.1
Income (dollars)			
Personal Disposable Income per capita	24,099	3.1	3.6
Canadian Dollar (U.S. cents per unit)	82.5	7.4	2.7
Employment (thousands)	16,170	1.4	2.1
Population (thousands)	32,271	0.9	1.0
Prices			
Total Economy (1997=100)	118.3	3.1	2.5
Consumer Price Index (1992=100)			
All Items	127.3	2.2	2.4
Transportation	150.7	4.1	3.1

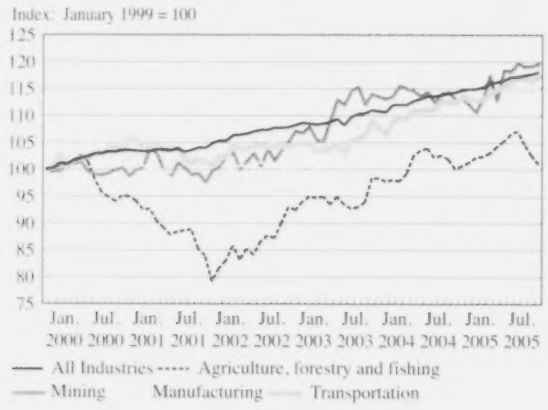
Source: Statistics Canada Cat. No. 11-010, 13-001, 15-001, 62-010; Bank of Canada

GDP at basic prices by industry grew 3.2 per cent in real terms in 2005, similar to the previous year. Output in the goods sector of the economy grew at 3.0 per cent while the services sector grew by 3.3 per cent. The lower growth rate in the goods sector reflects the relatively low growth (2.4 per cent) in manufacturing output. Motor vehicle production declined in the first half of the year but recovered in the second half. In the primary sector,

agriculture grew 5.8 per cent; however, forestry declined 0.3 per cent. The mining sector grew 1.9 per cent as oil and gas exploration advanced 14 per cent but oil and gas extraction fell 1.5 per cent due to production difficulties. Construction output grew by 4.6 per cent with both non-residential activity and residential activity. Retail and wholesale trade advanced 4.6 per cent and 7.8 per cent, respectively. Transportation services grew 4.3 per cent and benefited from the movement of resource commodities and consumer goods.

Figure 2-1 shows the changes in real GDP since 2000.

FIGURE 2-1: REAL GDP BY MAJOR SECTOR, 2000 – 2005

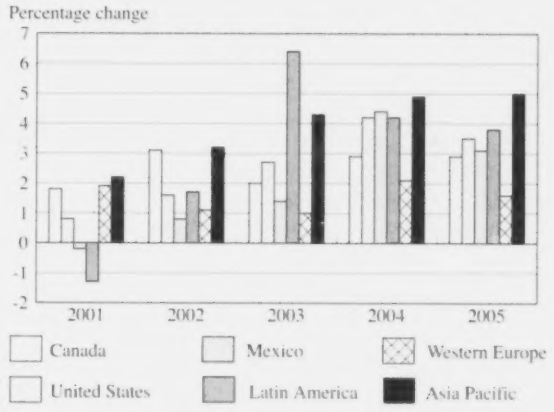


Source: Statistics Canada Cat. No. 15-001

The world economy grew 3.5 per cent in 2005, which, while down from the 3.9 per cent growth in 2004, was very respectable. It survived high oil prices and was supported by a strong U.S. economy and by growth in China and Japan. In the United States strong consumer spending, equipment and software purchases, exports and residential construction contributed to 3.5 per cent growth, down from 4.2 per cent growth the previous year. While the fall in the value of the U.S. dollar helped exports, high energy prices increased imports and the trade deficit widened by $100 billion. Consumer spending was buoyed by employment and high real estate prices. The Mexican economy grew by 3.1 per cent in 2005, benefiting from strong domestic demand and exports to the United States. Latin America grew by 3.8 per cent in 2005 down from 4.2 per cent in 2004. Brazil's growth rate fell from 4.9 per cent to 2.3 per cent reflecting tight monetary policy and the effects of a political crisis on consumer and business confidence. Western Europe's growth rate was only 1.6 per cent in 2005, down from 2.1 per cent the previous year and reflects the impact of high energy prices as well as structural difficulties particularly in Germany, France and Italy. Growth in the United Kingdom economy fell from 3.2 per cent in 2004 to 1.8 per cent in 2005. Growth in the Asia-Pacific region was 5.0 per cent in 2005, basically unchanged. For the second year in a row Japan had respectable economic growth at 2.7 per cent. China continued with very strong growth, 9.9 per cent in 2005, fueled by exports and investment. China is now the third largest exporter in the world.

Figure 2-2 compares Canada's economy with that of other regions from 2001 to 2005.

FIGURE 2-2: REAL GDP: CANADA AND OTHER REGIONS, 2001 – 2005



Note: GDP at market prices

Source: Global Insight, Statistics Canada Cat. 13-010, U.S. Bureau of Economic Analysis

In 2005, merchandise exports on a balance of payments basis increased by 5.7 per cent while imports increased by 6.5 per cent, resulting in a goods surplus of $66.7 billion up less than one per cent from 2004. In terms of value, energy exports increased due to a rise in energy prices while the value of forestry and automotive product exports declined. Exports to the U.S. rose 5.2 per cent, 7.4 per cent to the European Union and 5.3 per cent to Japan while imports increased 3.4 per cent from the U.S., 5.0 per cent from the European Union and 11.6 per cent from Japan.

The value of Canadian dollar against the U.S. dollar fell in the first part of 2005 from the 2004 close of US$0.824 to its low for the year of US$0.794 in May. It then rose to close the year at a 13-year high of US$0.863. The average value of the Canadian dollar against the U.S. dollar increased 7.4 per cent in 2005 and has risen 28 per cent from January 2002 to December 2005. The rise of the Canadian dollar reflects the fall in the value of the U.S. dollar as well as an increase in commodity prices.

General prices in the total economy as measured by the GDP deflator rose 3.1 per cent in 2005, up very slightly from the 3.0 per cent increase in 2004. Consumers paid 2.2 per cent more on average for goods and services in 2005 than they did in 2004; this was up from the 1.9 per cent increase in 2004. The main factor behind the increase in inflation was the increase in energy prices, which rose 9.7 per cent compared with the 6.7 per cent increase in 2004. Another contributing factor was a 5.2 per cent increase in home ownership replacement costs. Transportation prices rose 4.1 per cent compared with a 2.4 per cent increase in 2004 as gasoline prices rose 12.8 per cent.

Disposable income per capita rose 3.1 per cent in 2005 in nominal terms compared with a 2.9 per cent increase in 2004. In real terms, disposable income per capita rose 1.5 per cent, the same rate as it did in 2004.

The average number of persons employed in Canada rose 1.4 per cent to 16,170 thousand in 2005, and follows a 1.8 per cent increase in 2004. The labour force grew only 0.9 per cent in 2005 and this along with the employment growth pushed the unemployment rate down to 6.8 per cent, the lowest rate since 1974. By mid-year the population of Canada rose to 32.3 million, up 0.9 per cent from 2004.

Provincial Economic Performance

In 2005, western Canada continued to have stronger growth than central and eastern Canada. The West's economy was driven by the demand for resource commodities. This drove up the value of the Canadian dollar and caused problems for the manufacturing industries of Ontario and Quebec. Newfoundland and Labrador improved its economic performance in 2005 but had the lowest growth rate of the provinces as a result of declines in oil production, which were due to accidental spills and system problems.

While the primary sector struggled in Prince Edward Island, the manufacturing and construction sectors did well. In Nova Scotia, the service sector, particularly retail and wholesale trade, was strong but the fishing industry was hurt due to quotas and the weather. In addition, natural gas production fell. Investment activity and consumer demand helped the New Brunswick economy while manufacturers were affected by the high dollar and by high energy prices. Consumer demand for cars and other large purchases helped the Quebec and Ontario economies as the manufacturing sector adjusted to the high dollar. This was aided by strong U.S demand particularly for motor vehicles. Investment in machinery and equipment was strong in both provinces as businesses improved their competitiveness. While residential construction cooled, it was still strong. Heavy rainfall and cool temperatures adversely affected agriculture in the three western provinces. In Manitoba, manufacturing faired well in 2005, and heavy rainfall pushed up hydroelectric production. Sales of potash, uranium and energy as well as investment in these industries provided strength to the Saskatchewan economy. Alberta, driven by energy investments and exports, had the strongest growth of all provinces. People continue to migrate to Alberta to take advantage of the prosperity affecting many sectors of the economy there. British Columbia's forestry industry was strong in 2005 as it benefited from the housing boom taking place in both Canada and the United States.

Table 2-2 shows provincial economic performance in 2004/05.

TABLE 2-2: PROVINCIAL ECONOMIC GROWTH, 2004/05

(GDP at basic prices in chained $1997)

	Percentage Change 2004-05	*Percentage Change 1999 – 2004*
Newfoundland and Labrador	0.2	5.1
Prince Edward Island	1.9	2.3
Nova Scotia	1.5	2.6
New Brunswick	0.3	2.5
Quebec	2.2	2.6
Ontario	2.9	3.0
Manitoba	2.7	2.2
Saskatchewan	3.5	1.6
Alberta	4.7	3.7
British Columbia	3.6	3.1
Territories	1.4	8.3

Source: Statistics Canada

INTERNATIONAL TRADE AND TRADE CORRIDORS

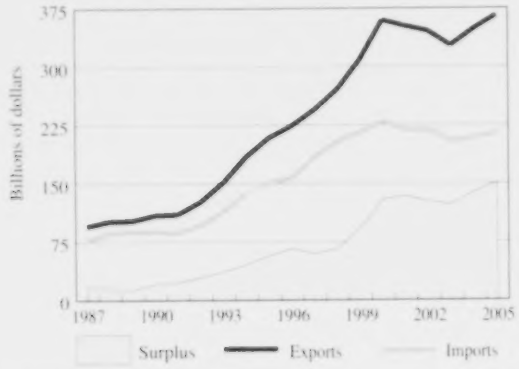
By the end of 2005, exports and imports of merchandise had both hit record highs since the 2000 peak, reaching $435 billion and $378 billion, respectively. Canada's trade surplus with the rest of the world, however, increased by only one per cent over 2004, as the trade deficit increase rate (14 per cent) with non-U.S. countries far exceeded the U.S. trade surplus increase (9 per cent).

TRADE WITH THE UNITED STATES

In 2005, the United States remained by far Canada's most important trading partner, capturing 71 per cent (in value) of Canada's total trade with the world. That share had peaked at 78 per cent in 1999. Exports to the United States represented 84 per cent of Canada's total exports to the world, a share that has been stable at 84 to 86 per cent since 1998. By contrast, Canada's imports share from the United States has continuously decreased since 1998 when it peaked at 68 per cent of total imports from the world before reaching a record low of 57 per cent in 2005. As a result, Canada's annual surplus with the United States has enjoyed an annual average growth of 10 per cent over the last 10 years due mainly to the vitality of its exports[1] to this country.

Figure 2-3 tracks the value of trade with the United States from 1987 to 2005.

FIGURE 2-3: VALUE OF GOODS TRADED BETWEEN CANADA AND THE UNITED STATES, 1987 – 2005



Note: Customs-based trade data. Preliminary data for 2005.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database).

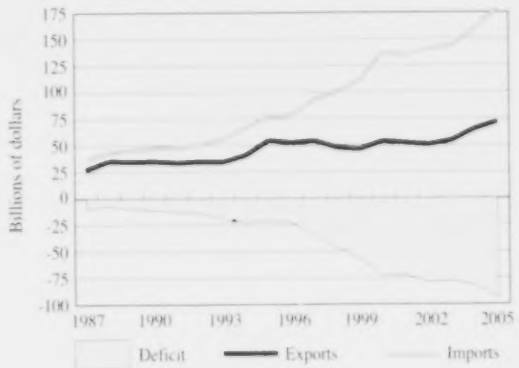
After peaking at $589 billion in 2000, Canada's trade with the United States totalled $580 billion in 2005, an increase of four per cent over 2004. In terms of value, trucks carried 60 per cent of this trade, followed by rail (17 per cent), pipeline (14 per cent), air (6 per cent) and marine (3 per cent). Trucking was the dominant mode for exports (51 per cent) and imports (77 per cent). By volume,[2] pipelines ranked first at 33 per cent (mainly in exports), followed by trucks (31 per cent), rail (18 per cent) and marine (17 per cent).

The most important trade flows between Canada and the United States involved Ontario and the U.S. Central Region,[3] totalling $167 billion — $84 billion from and to Michigan alone. Four of the top six Canada-U.S. trade flows involved Ontario. However, out of 14 trade flows, flows involving Alberta and U.S. regions showed the greatest growth in 2005 over 2004 (over 20 per cent), while flows including Ontario showed almost no growth growth for the same period. Close to 76 per cent of the Canada-U.S. trade carried by trucks (value) was concentrated at six border crossing points: Windsor/ Ambassador bridge, Fort Erie, Sarnia and Lansdowne in Ontario, Lacolle in Quebec and Pacific Highway in British Columbia.

TRADE WITH OTHER COUNTRIES

In 2005, Canada's trade with other countries increased by 11 per cent, totalling $233 billion, driven by imports valued at $163 billion. Because Canada's exports to non-U.S. countries have grown at a slower pace than imports from these countries, the trade deficit with them has been increasing, especially since 1995. Imports from other countries (mainly Asian countries and more specifically the People's Republic of China) have generally exceeded Canada's exports to these countries. In 2005, approximately 41 per cent of Canada's trade deficit with other countries was linked to Asian countries, compared with 24 per cent in 1995. As Figure 2-4 shows, Canada's trade deficits with non-U.S. countries have grown at an annual average rate of 16 per cent in last 10 years.

FIGURE 2-4: VALUE OF GOODS TRADED BETWEEN CANADA AND OTHER COUNTRIES, 1987 – 2005



Note: Customs-based trade data. Preliminary data for 2005.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database).

1 Another factor favouring Canada's exports to the U.S. was the value of the Canadian dollar against the U.S. currency, which made the Canadian goods relatively less expensive to American consumers (especially over the 1994-2003 period).

2 2004 modal rankings are applied as 2005 volume trade data are not available (under revision).

3 The U.S. Central Region includes states bordering the Great Lakes area, i.e., states of Michigan, Ohio, Indiana, Illinois, Wisconsin; also the states of Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.

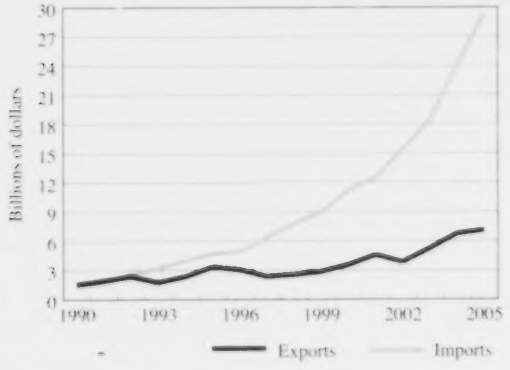
Both in terms of value and volume, marine and air were the dominant modes, capturing more than 90 per cent of the trade with oversea countries. In 2005, six trade flows accounted for almost 75 per cent of Canada's total trade with countries other than the United States. Four of these were two-way flows between eastern provinces and Western Europe ($20 billion in exports, $46 billion in imports) and between western provinces and Asian countries ($17 billion in exports, $20 billion in imports). The other two trade flows of importance were imports from Asian countries ($44 billion) and Latin American countries ($24 billion), mainly Mexico to eastern provinces.

For more detailed information on Canada's trade with the United States and other countries, see tables A2-1 to A2-9 in the Addendum.

New Trends and Gateways

From 1995 to 2005, the average annual growth rate for imports from non-U.S. countries reached 8.1 per cent, three times the rate of exports from Canada to these countries (2.5 per cent). Out of Canada's top 20 trading country partners in 2005, six countries had a two-digit average annual growth rate in trade with Canada over the 1995-2005 period: Algeria (28 per cent for imports), China (20 per cent for imports), India (13 per cent for imports), Brazil (12 per cent for imports), Mexico (11 per cent for imports, 11 per cent for exports) and Norway (10 per cent for imports). Addendum Table A2-10 lists Canada's top 25 trade partners in 2005 and includes their ranking and growth rate.

FIGURE 2-5: VALUE OF GOODS TRADED BETWEEN CANADA AND CHINA (PEOPLES REPUBLIC), 1990 – 2005



Note: Customs-based trade data. Preliminary data for 2005.

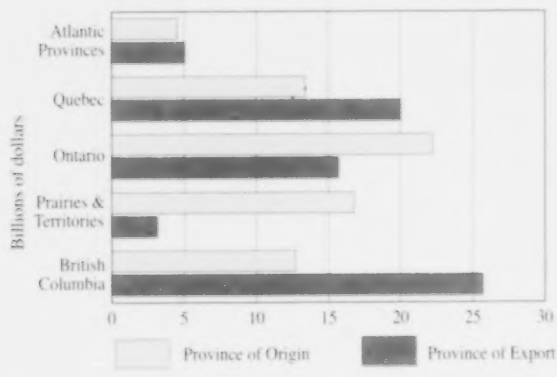
Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

China's increased trade with Canada and the U.S. has been a new driving force in North American business, putting more strain on transportation infrastructure and modal logistics. In the last five years (2000-2005), China's exports and imports to and from Canada recorded an average annual growth of 14 per cent and 21 per cent, respectively. In 2005, China ranked second ($29.4 billion) and fourth ($7.1 billion), respectively, in Canada's total imports and exports from and to the world. As a result, China has surpassed Japan and Mexico as a source of imports for both Canada and the United States. Figure 2-5 illustrates the evolution of Canada's trade with China since 1990.

Between 1995 and 2005, marine exports to China doubled to reach $6 billion, while exports moved by air were more than five times their 1995 level and totalled $863 million. On the import side, the pattern is similar with marine imports quadrupling, and air imports at 13 times their 1995 levels. As mentioned previously, in addition to China, countries such as Mexico, India, Brazil and others also showed strong growth in their trade with Canada in recent years.

The impact of this increased trade on the country's transportation system has been important in recent years. A significant proportion of this increased trade has been moving in containers, resulting in capacity bottlenecks. In 2005, Canada's total commodity exports to other countries (excluding the U.S.) totalled $69.6 billion, including $26 billion (37 per cent) shipped through British Columbia customs points (e.g., marine ports and airports) and $20 billion (29 per cent) moved through Quebec customs ports. Figure 2-6 illustrates this increased trade by province of origin and by province of export. The present trade data does not allow for a similar view (by province of arrival) for imports.

FIGURE 2-6: CANADA'S TOTAL EXPORTS TO COUNTRIES OTHER THAN THE U.S., BY PROVINCE OF ORIGIN AND EXPORT, 2005



Note: Customs-based trade data. Preliminary data for 2005.

Source: Transport Canada (adapted from Statistics Canada, International Trade Database)

Almost 75 per cent (by value) of Canada's exports to Asian countries were shipped through British Columbia customs ports, including 83 per cent of Canadian exports to Japan, 79 per cent of exports to South Korea, and 77 per cent of exports to China. Addendum Table A2-11 shows more details on Canada's exports moved through British Columbia's customs ports.

AREAS OF IMPORTANCE TO TRANSPORTATION

TRAVEL AND TOURISM

International travel to and from Canada fell 0.5 per cent in 2005, reversing the 3.2 per cent rise in 2004. Americans took 31.7 million trips to Canada in 2005, down 8.6 per cent. This included a drop in same-day automobile trips by Americans of 12.0 per cent over 2004 to 15.7 million, the lowest number on record. Overseas travellers made 4.5 million trips to Canada, an increase of 6.8 per cent and the highest number since 2000. Among the countries that contributed most to this number was China with the greatest increase, at 14.8 per cent. Overall non-resident trips to Canada fell 6.9 per cent in 2005. In 2005, Canadians made 44 million international trips, up 5.4 per cent overall with trips to the U.S. rising to 4.8 per cent and trips abroad to 8.7 per cent.

Table 2-3 shows international travel in 2005.

Domestic travel[4] increased 1.6 per cent in 2004 (latest data) to 175.1 million trips, reversing the 8.3 per cent decline in 2003. Interprovincial trips, which account for 12 per cent of total trips, grew by 2.9 per cent, while intraprovincial trips grew by 1.5 per cent. Same-day trips grew by 0.6 per cent, and overnight trips grew by 2.7 per cent. The total number of trips was split fairly equally between same-day and overnight trips. Trips by automobile, which accounted for 92 per cent of trips, increased 1.6 per cent. Trips by rail had the largest increase at 17.3 per cent.

Tourism expenditures in Canada increased 6.8 per cent in 2005 to $61.4 million, following a 6.4 per cent increase in 2004. Tourism spending by Canadians was stronger than spending by foreigners, increasing 9.4 per cent. This

TABLE 2-3: INTERNATIONAL TRAVEL, 2005

	2005	*Percentage change from 2004*
Trips by Canadians	44,030,945	5.4
To United States	37,793,994	4.8
Automobile	30,874,097	4.1
Same-day	22,278,101	3.5
Overnight	8,595,996	5.7
Airplane	5,189,358	11.8
To all other countries	6,236,951	8.7
Trips by non-residents	36,160,106	(6.9)
by U.S. residents	31,655,012	(8.6)
Automobile	24,486,323	(10.2)
Same-day	15,712,087	(12.0)
Overnight	8,774,236	(6.7)
Airplane	4,279,389	(1.1)
Trips by all other non-residents	4,505,094	6.8
Total international trips	80,191,051	(0.5)

Source: Statistics Canada (cat. No. 66-001)

was up substantially from the 3.7 per cent increase in 2004. Foreigners visiting Canada spent only 1.0 per cent more in 2005 on tourism than in 2004, when their spending had increased 12.9 per cent. Tourism spending on transportation increased 12.0 per cent in 2005 up from the 9.5 per cent in 2004. This included spending on air travel, up 13.5 per cent, and spending on motor vehicle fuel, up 15.1 per cent. Tables A2-12 to A2-22 in the Addendum provide more details on tourism.

EMPLOYMENT

The number of people employed in the transportation sector during 2005 was estimated to be approximately 860,200.[5] This includes full- and part-time employees. By mode, the trucking and bus transport industries accounted for the greatest numbers of employees within the transport sector, with an estimated 356,000 employees (41.4 per cent) and 94,600 employees (11.0 per cent), respectively. Employment in air transportation services has recovered in recent years from its low of 76,900 employees in 2002, to reach 79,700 employees in 2005 — close to the 1998 level but still below the 86,000 thousand employees reported in 2000. Since the mid-1990s, the overall level of employment has increased in the bus industry, in trucking services,[6] in taxi and limousine services, in marine transportation and in pipeline transportation. The 2005 estimate of 35,600 employees working in rail services reflects that industry's ongoing declining employment trend. That mode employed

4 Domestic travel refers to trips of at least 80 kilometres from a traveller's usual place of residence, excluding trips to or from work or school.

5 This estimate excludes private trucking employment.

6 A large increase identified in truck industry employment in 2004 (See Table A2-25 in Addendum), and reflected in that industry's estimated level of employment for 2005, is due to a 12 per cent increase in medium/large for-hire carriers (those earning annual revenues over $1 million) in 2004 over the carriers counted in 2003.

67,000 employees in 1990. Employment in highway construction and maintenance, estimated at 56,900 in 2005, has remained relatively stable since 2000, fluctuating within the range of 1,000 employees.

For detailed information on employment and salaries in the transportation sector see tables A2-23 to A2-48 in the Addendum.

Energy Consumption

Overall, total domestic energy use increased by 1.1 per cent in 2004. Energy consumption grew in the forestry and construction sectors by 21.2 per cent and 5.6 per cent, respectively, by 3.5 per cent in the transportation sector and 2.5 per cent in public administration. The manufacturing sector (minus its transportation component) also increased its energy use by 2.1 per cent.

In other sectors, energy consumption decreased between 2003 and 2004. Those include the residential sector, which was down 2.6 per cent, and the agriculture sector, down 1.5 per cent. Mining and the commercial sector also reduced their overall energy consumption by 0.9 per cent in 2004.

In 2004, transportation represented 34 per cent of total energy consumption in the Canadian economy, which is the average ratio registered since 1997. The pipeline industry was the only sector where energy consumption decreased in 2004 (by 6.5 per cent). This follows a 15.2 per cent decline in the previous year. The greatest increases were registered in the marine and aviation sectors at 10.9 per cent and 9.7 per cent, respectively. After a decline in 2003, energy use by the rail industry grew by 1.7 per cent. Road energy use increased by 3.5 per cent, which is similar to the 3.2 per cent registered in 2003. Road transportation, including private vehicles, still represents 77 per cent of total transportation in terms of energy use. See tables A2-49 to A2-56 in the Addendum for more on transportation energy consumption.

The tremendous increase in fuel costs in the year 2005 affected not only all sectors of the Canadian economy but also the world as a whole. Already in 2004, the price of crude oil had increased by 33 per cent, moving from an average of US$42 per barrel in 2003 to an average of US$57 in 2004 (the price on the New York Mercantile Exchange). This increase was fueled by world demand — especially the demand for motor gasoline in North America — coupled with uneasiness on the markets about future supply of cheap crude oil. In particular, reports circulated suggesting that Saudi Arabian reserves of sweet crude oil were not as extensive as previously assumed, and that future production would have to come from heavier oil, which is more expensive to extract and refine.

These factors remained in place in the first half of 2005, pushing the price on the New York Mercantile Exchange (NYMEX) over US$59 per barrel in July (29 per cent over the 2004 average).

While Hurricane Katrina and the damage it caused to oil rigs and refineries in the American southeast is generally blamed for the high price of crude oil in August and September 2005, the hurricane had only started to form over the Bahamas on August 23. It hit New Orleans and the Central Gulf Coast on August 29. However, the NYMEX price had already reached US$67.33 per barrel on August 12, following the established trend. Katrina only pushed the price to a record peak of US$70.28 per barrel on August 30 while the damage was assessed.

The price did not get any higher, in large part due to the U.S. Strategic Petroleum Reserve. As early as August 29, the U.S. Secretary of Energy approved six emergency requests for loans of crude oil to a few refiners whose deliveries had been interrupted. And, on September 2, President Bush formally authorized the release of 30 million barrels of oil from the Reserve. Deliveries began the following day and continued until mid-November, reaching a total of 19.2 million barrels. Those loans, combined with offers of assistance from several countries, including Canada, helped calm the markets and prevent further increases in oil prices. The NYMEX reference price never went over the US$70.28 per barrel quoted above. It started to decline immediately, averaging US$59.87 in December 2005.

The price of crude oil is not the only variable putting pressure on the price of refined petroleum products. There have been no new refineries built in North America for over 25 years. Before Katrina, U.S. refineries were operating at 95 per cent capacity and the fear of a disruption in production and supply was already putting upward pressure on fuel prices. Between January and July 2005, the pre-tax price of refined products (as represented by motor gasoline, diesel # 2 and kerosene-type jet fuel) rose by 32 per cent against 25 per cent for the NYMEX price. This phenomenon was aggravated by the heavy damage sustained by a number of refineries in the American Southeast as a result of Katrina. At one point, a full 25 per cent of American refining capacity was out of commission. This put additional pressure on fuel prices.

From July to September, the price of crude oil increased by 11 per cent while U.S. gasoline rose by 32 per cent, diesel by 24 per cent and jet fuel by 22 per cent. From September to November, diesel and jet fuel prices fell at about the same rate as crude oil (11 per cent). On the other hand, possibly in response to consumers' outrage, the price of gasoline dropped by 25 per cent over the same period.

Due to integrated North American markets, Canadian fuel prices followed a similar pattern. The average price of gasoline (regular, self-service) in Canada rose from 78.9¢ per litre in January to 93.5¢ in July. In the first week of August, gasoline prices broke the psychological barrier of $1.00 per litre in many parts of Canada, averaging $1.05 countrywide. After Katrina, prices shot up, averaging $1.26 for the week of September 6. Canadians had to wait until the end of October to see the national average fall below one dollar per litre. The year closed with the price of gasoline averaging 90.7¢ per litre across the country.

The retail price of diesel fuel followed a similar pattern, moving from 81.6¢ per litre in January to 94.5¢ in August. After Katrina, it moved to $1.02 in September and $1.07 in October, before starting a slow decline and ending the year at 95.6¢ per litre.

At the time of publication of this report, only partial data on fuel sales were available for 2005. The data seems to indicate that those price hikes had an impact on fuel consumption in Canada. For example, from January to August inclusively, retail sales of motor gasoline were 1.6 per cent above the average level for the same period in 2004. And, while September always brings a decline in consumption, this decline was more pronounced than usual in 2005. Retail sales fell by 13 per cent from August and were 1.6 per cent below their September 2004 level. Furthermore, total sales of gasoline in September were a full 3.5 per cent below the 2004 level. The impact on other fuels and modes is less obvious with sales of diesel and jet fuel remaining slightly above their 2004 levels in September.

The price increases have an impact on carriers' operating costs and in the price of transportation services. Overall, average energy costs in 2005 for all modes were about 34 per cent above their 2003 levels. Depending on their cost structures, the increases in the costs of energy since 2003 would have required increases of 5.3 per cent in air fares, 3.6 per cent in both trucking charges and urban transit fares (or subsidy), 3.3 per cent in rail freight charges and 2.1 per cent in VIA fares to maintain the same operating margin in each transportation sector.

PRODUCTIVITY AND PRICE PERFORMANCE OF TRANSPORT

In 2004, productivity increased by 2.8 per cent and 4.8 per cent in the rail and air industry, respectively. These increases were largely the result of significant gains in labour productivity, estimated at 10.1 per cent for the rail industry and a more modest, but nevertheless significant, 6.4 per cent in the air industry.

The air industry experienced a 15.5 per cent increase in fuel unit costs in 2004; the same increase observed in 2003. increases in fuel unit costs were in general more modest in other industries with the rail industry experiencing an increase of 1.7 per cent and public carriers facing increases of 1.4 per cent and 3.4 per cent for VIA Rail and Transit operators respectively. With respect to total unit costs, the rail and air industries and VIA Rail all experienced a net decrease on average due mostly to lower labour and capital costs. In contrast, total unit costs in the Transit sector increased by 2.2 per cent.

Transport prices and demand fluctuated in the rail and air industries in 2004. In the rail industry, freight prices increased on average by 1.5 per cent while demand rose by 5.9 per cent. In the air industry, prices for air cargo increased by 2.7 per cent while demand increased by 15.9 per cent thereby recouping a portion of the business lost in 2003. In the air passenger transportation area, prices were stable in spite of an increase of 9.4 per cent in demand. The demand for public passenger carriers rose by 2.4 per cent while prices for such services increased by 3.5 per cent on average. (See tables A2-57 to A2-65 in the Addendum.)

IMPORTANCE OF TRANSPORTATION TO THE CANADIAN ECONOMY

VALUE-ADDED OUTPUT OF COMMERCIAL TRANSPORTATION

Value-added estimates[7] of output are available for transportation services that are offered on a commercial or for-hire basis. These estimates do not include transportation services that are operated by a company for its own use, such as private trucking.

7 A value-added measure of output is referred to as net output and is equivalent to gross output or total sales net of goods and services purchased by a firm as intermediate inputs and includes only primary inputs such as labour.

Table 2-4 shows the contribution of the different modes to Canada's GDP in 2005.

TABLE 2-4: COMMERCIAL TRANSPORTATION AS A PROPORTION OF GDP,[1] 2005

	Millions of constant 1997 dollars	*Per cent of GDP*
Industries		
Air	4,117	0.4
Rail	5,977	0.6
Water	1,431	0.1
Truck	15,454	1.4
Urban transit systems	3,242	0.3
Interurban and rural bus	196	0.0
Miscellaneous ground passenger transportation	1,864	0.2
Other transportation[2]	12,948	1.2
Transportation industries	45,225	4.2

1 Gross Domestic Product at Basic Prices.
2 Includes scenic and sightseeing, postal and courier services as well as support activities for other modes of transportation such as baggage handling, pilotage, harbour operation and rail car loading and unloading.

Source: Statistics Canada Cansim Table 379-0019

Commercial transportation industries in Canada accounted for $45.2 billion in 1997 dollars, or 4.2 per cent of the value-added GDP in 2005. This was unchanged up from 4.1 in 2004. The most important industry is trucking which made up $15.4 billion or 1.4 per cent of the total output. The air and rail transportation industries accounted for $4.1 billion or 0.4 per cent and $6.0 billion or 0.6 per cent respectively, while urban transit accounted for $3.2 billion or 0.3 per cent of GDP.

TRANSPORTATION-RELATED DEMAND

Table 2-5 shows transportation-related demand as a proportion of GDP.

In 2005, the total of all transportation expenditures for the final demand of goods accounted for 12.5 per cent of expenditures in Canada's economy. Personal expenditures on transportation were the largest part of transportation-related demand and accounted for 8.4 per cent of GDP. In 2005, these expenditures grew by 7.7 per cent. This growth was almost double the 4.1 per year average rate of the previous five years and reflects a 14.1 per cent increase in the purchase of transportation fuels and lubricants. Transportation equipment purchases, mostly motor vehicles, made up 3.6 per cent of the GDP, while other motor vehicle expenses, including maintenance and repair, fuel and licences, made up another 3.7 per cent. Personal expenditures on commercial transportation made up 1.0 per cent of total GDP. For a more detailed breakdown of personal expenditures for transportation, see Table A2-66 in the Addendum.

TABLE 2-5: TRANSPORTATION DEMAND AS A PROPORTION OF GDP, 2005

	Millions of dollars 2005	*Per cent of GDP 2005*	*Per cent annual growth rate 2004 – 2005*	*Per cent annual growth rate 1999 – 2004*
Personal Expenditures on Transportation	**115,294**	**8.4**	**7.7**	**4.1**
New and used transportation equipment	48,852	3.6	4.8	2.6
Repair and maintenance expenditures	15,616	1.1	6.6	5.9
Transportation fuels and lubricants	27,635	2.0	14.1	7.4
Other motor vehicle related services	8,271	0.6	5.5	4.9
Purchased commercial transportation	13,920	1.0	9.0	2.2
Investment in Transportation	**37,964**	**2.8**	**11.5**	**N/A**
Business investment in transportation	28,803	2.1	11.4	N/A
Transportation infrastructure (roads and railways)	2,217	0.2	6.1	(5.8)
Transportation equipment	25,430	1.9	11.2	0.9
Inventories	1,156	0.1	28.4	N/A
Government investment in transportation	9,161	0.7	12.1	6.4
Transportation infrastructure (roads)	8,224	0.6	12.4	7.6
Transportation equipment	937	0.1	10.2	(1.0)
Government Spending on Transportation[1]	**13,699**	**1.0**	**6.2**	**2.3**
Road maintenance	8,431	0.6	3.4	2.9
Urban transit subsidies	2,691	0.2	(1.5)	1.0
Other spending	2,577	0.2	27.9	1.7
Exports	**99,908**	**7.3**	**(1.5)**	**(1.1)**
Automotive products	88,349	6.5	(2.2)	(1.5)
Commercial transportation	11,559	0.8	4.6	2.7
Imports	**95,680**	**7.0**	**2.8**	**1.1**
Automotive products	78,336	5.7	1.5	0.3
Commercial transportation	17,344	1.3	9.5	5.2
Total Transport-Related Final Demand	**171,185**	**12.5**	**4.8**	**N/A**
Gross Domestic Product at Market Prices	**1,368,726**	**100.0**	**6.1**	**5.6**
Transportation-related domestic demand	165,624	12.1	7.6	N/A
Final Domestic Demand	**1,304,347**	**95.3**	**6.2**	**5.5**

Note: N/A = Not available
1 2004 figures: growth rates over previous year are growth rates over 2003.

Source: Statistics Canada National Income and Expenditure Accounts, Transport Canada

Investment in transportation made up 2.8 per cent of the GDP in 2005. Business investment in transportation was the largest part of this and accounted for 2.1 per cent of GDP. In 2005, business transportation investment rose by 11.4 per cent as business investment in transportation equipment rose by 11.2 per cent. Government investment is dominated by expenditures on roads, and accounts for 90 per cent of government investment spending on transportation and 1.0 per cent of the GDP. For more detailed information on government transportation spending, see Chapter 3 of this report.

Automotive trade dominated transportation exports and imports. Exports of automotive equipment, including parts, were equivalent to 6.5 per cent of the GDP, while imports were equivalent to 5.7 per cent in 2005. Automotive exports fell by 2.2 per cent in 2005, while automotive imports rose 1.5 per cent.

Transportation-related domestic demand made up 12.1 per cent of final domestic demand in 2005. This percentage is lower than for transportation-related final demand reflecting the importance of automotive products to Canada's external trade.

Provincial and Territorial Transportation Spending

Commercial Transportation

Table 2-6 shows the importance of provincial and territorial commercial transportation[8] to the Canadian total. In 2004, most of the commercial transportation activity took place in Ontario and Quebec, which together accounted for 58 per cent of the total commercial transportation measured in the GDP. Alberta and British Columbia accounted for another 29 per cent.

Personal Transportation

In 2004, Canadians spent $107.1 billion on personal transportation. Of this total, Ontario residents spent 39 per cent, Quebec residents 23 per cent, British Columbia residents 13 per cent, and Alberta residents 12 per cent.

On a per capita basis, Alberta residents spent an average of $3,849 on transportation in 2004, the most of any province or territory, while Nunavut residents spent the least, only $1,191. Of the other provinces and territories, only residents of Ontario, Yukon and the Northwest Territories spent more than the national average of $3,257.

TABLE 2-6: COMMERCIAL TRANSPORTATION AS A PER CENT OF GDP BY PROVINCE AND TERRITORIES, 2004

	Millions of dollars	*Per cent of total Canadian*	*Per cent of total provincial/ territorial*
Newfoundland and Labrador[1]	455.4	1.1	3.0
Prince Edward Island[1]	79.8	0.2	2.4
Nova Scotia[1,2]	1,013.4	2.3	4.1
New Brunswick[1,2]	1,045.3	2.4	5.5
Quebec	9,324.9	21.6	4.2
Ontario	15,825.0	36.7	3.6
Manitoba[1]	1,950.6	4.5	5.8
Saskatchewan	1,218.7	2.8	3.7
Alberta	5,308.5	12.3	3.7
British Columbia	7,011.8	16.2	5.5
Territories[1,2]	184.2	0.4	3.7

Note: GDP at basic prices.
1 Includes warehousing.
2 Includes pipeline.

Source: Statistics Canada Cansim Table 379-0025

On average, transportation represented 14.8 per cent of the total personal expenditures of Canadians. Alberta, Quebec and New Brunswick residents spent more than 15 per cent of their total personal spending on transportation.

Personal expenditures on transportation represented 8.7 per cent of final domestic demand in Canada in 2004. The proportion was higher in New Brunswick, Quebec and Ontario, but only 5.8 per cent in the Yukon, 4.1 per cent in the Northwest Territories and 1.9 per cent in Nunavut.

Table 2-7 shows personal expenditures on transportation by province and territory in 2004.

TABLE 2-7: PERSONAL EXPENDITURES ON TRANSPORTATION BY PROVINCE AND TERRITORY, 2004

	Millions of dollars	*Per capita dollars*	*Per cent of total provincial/ territorial personal expenditures*	*Per cent of total Canadian personal transportation expenditures*	*Per cent of provincial/ territorial final domestic demand*
Newfoundland and Labrador	1,434	2,774	14.5	1.3	7.5
Prince Edward Island	392	2,843	14.4	0.4	8.1
Nova Scotia	2,866	3,059	14.4	2.7	8.3
New Brunswick	2,288	3,046	15.4	2.1	8.9
Quebec	24,904	3,302	15.9	23.3	9.3
Ontario	41,863	3,378	14.4	39.1	8.8
Manitoba	3,418	2,920	13.9	3.2	8.3
Saskatchewan	2,884	2,898	13.7	2.7	7.8
Alberta	12,324	3,849	15.4	11.5	7.9
British Columbia	13,668	3,262	13.9	12.8	8.5
Yukon	118	3,771	14.4	0.11	5.8
Northwest Territories	145	3,385	12.5	0.14	4.1
Nunavut	35	1,191	7.5	0.03	1.9
Canada	**107,065**	**3,351**	**14.8**	**100.0**	**8.7**

Source: Statistics Canada

8 Due to the unavailability of constant dollar estimates of provincial GDP by industry, only current dollar estimates of transportation are available. The latest year for which they are available is 2002. For some provinces and territories it is not possible to obtain estimates that do not include warehousing and/or pipelines for confidentiality reasons.

A CANADIAN TRANSPORTATION SATELLITE ACCOUNT (CTSA)

The measures of transportation services in the National Accounts System capture only the value of for-hire transportation services. For-hire transportation firms use transportation equipment, such as aircraft, trains, vessels, trucks, buses and taxis, as well as labour and energy, to offer transportation services to users for a fee in the market place. However, for-hire activities do not capture all transportation activities in the economy. Businesses also produce their own transportation services in support of their main line of activity, but these are not classified as one of the transportation industries in National Accounts. Instead, they are "own-account" transportation services and are captured under the industry producing them, not under "transportation."

A Satellite Account approach measures both "for-hire" and "own-account" transportation services, thus providing a more comprehensive measure of transportation services in whatever industries they occur. For instance, measuring transportation activities solely as "for-hire" would not factor in (identify and measure) retail establishments' own transportation activities used to move goods from warehouses to retail stores. Other countries have developed a transportation satellite account model. For example, the U.S. Bureau of Transportation Statistics has used such an approach, although it has not done so for all modes of transportation.

Statistics Canada, with the financial aid and support of Transport Canada, has developed a Canadian Transportation Satellite Account (CTSA). The CTSA supplements the Input-Output (I-O) accounts, also maintained at Statistics Canada. Because the CTSA covers both for-hire and own-account transportation industries, the development of the CTSA meant rearranging the 2000 I-O data and adding transportation data from other sources to generate a more complete picture of the economic impact of transportation on the Canadian economy.

The Canadian study estimated not only own-account transportation services for private trucking and bus operations, as did the United States, but also for the air, rail and marine transportation modes. To develop the CTSA, the Census data and the available I-O accounts were used. As the year 2000 is the most recent year for which such important data sources were available, it was used for the CTSA. Transportation data from other sources were also used to provide a more complete picture of transportation activities.

The CTSA estimates offer several advantages for transportation analyses:

- They measure all transportation activities in terms of:
  - their contribution to the output of the economy,
  - their use of inputs from other industries, and
  - other industries' use of transportation services as inputs.
- They show the use of both for-hire and own-account transportation services by other industries.
- Unlike the I-O estimates, the scope of the CTSA estimates of total "transportation" values are not affected when firms switch from own-account to for-hire or vice versa.

The I-O accounts provide detailed estimates of commodities purçhased by industries and categories of final demand. The I-O system has 15 for-hire transportation industries[1] and 29 transportation service commodities.[2] The "commodities" represent the main output of the transportation industries. Transportation industries move people or commodities, and/or contribute to the infrastructure needed to make the transportation system functional.

Given its detailed linkages between industries, the information in the I-O accounts was used as the analytical framework to prepare the CTSA estimates. This facilitated the estimates of the interdependencies between for-hire and own-account transportation and the rest of the economy. To determine the value of own-account transportation activities, the general valuation conventions used in the CTSA are consistent with the ones of the I-O accounts, with all transactions valued at producers' prices. The value of intermediate and value-added inputs associated with the production of own-account transportation services — for example, the purchase of gasoline or the employment of truck drivers by establishments not classified as a transportation industry — is moved from the non-transportation industries to newly defined own-account transportation industries by mode. The overall industry and commodity classification systems in the I-O accounts are augmented by the CTSA own-account transportation information to form new own-account industries and commodities, one for each mode of transport with own-account transportation constructed.

The CTSA data are presented in four tables: a production table, a disposition to intermediate and final demand table, a direct requirement table and a commodity-by-industry total requirement table, as in the I-O accounts. The difference is the four additional columns for the own-account transportation industries by mode and/or the four additional rows for own-account transportation commodities by mode. The total requirement table shows the sum of all the changes in industry outputs required to deliver a dollar's worth of the commodity (goods and services) to final demand users. This sum is referred to as an "output impact multiplier." It can be used to estimate the impact of changes in the final demand of commodities on total industry output. It can also be used to analyze the relative effects of an increase in the final demand for a product (e.g. manufactured products) on for-hire and own-account transportation and non-transportation industries. Own-account transportation commodities do not have impact

1 Air transportation, rail transportation, marine transportation, truck transportation, urban transit systems, interurban and rural bus transportation, taxi and limousine service, all other transit and ground transportation, pipeline transportation, scenic and sightseeing transportation, support activities for transportation, postal service, couriers and messengers, warehousing and storage, transportation margin. The transportation margin industry is a fictive industry created to account for transportation margins that originate on commodities in different industries for which there is limited statistical information.

2 Air transport, passenger; air transport, freight; air transport, specialty; services incidental to air transport; scenic and sightseeing transportation, bus; school bus and other transportation; ambulance services; travel agents, tour wholesale and operator services; parking services; other services incidental to transport; marine transport, passenger; marine transport, freight; marine transport, other; services incidental to marine transport; rail transport, passenger; rail transport, freight; services incidental to rail transport; truck transportation; bus transport, interurban and rural, passenger; bus transport, interurban and rural, parcel express; urban transit; taxicab transportation; highway and bridge maintenance; grain storage; other storage and warehousing; postal services; courier service; transportation margins. The transportation services required to bring a commodity from a producer to a consumer and paid for as part of the purchase price of the good are recorded as a transportation margin.

multiplier coefficients because consumers and other final demand users do not have a demand for own-account transportation services per se; these services are intermediate inputs.

Based on the CTSA, transportation services contributed $63.8 billion to Canada's gross domestic product in 2000. Of this, $37.2 billion was for-hire transportation and $26.7 billion was own-account transportation services. When own-account transportation activities are included, transportation represented 6.3 per cent of the GDP in 2000. The inclusion of own-account transportation shows that:

- the influence of transportation on product prices is greater than what was previously thought; and
- the economic benefits of investment in the transportation infrastructure needed to support the production of transportation services may be larger than estimates based only on for-hire transportation data.

The CTSA shows that own-account and for-hire transportation activities consumed $8.3 billion worth of petroleum products in 2000, while the I-O accounts show for-hire transportation industries consumed only $6.3 billion in petroleum products.

The commercial, professional, personal and other service industry is the largest user of transportation services, spending $16.4 billion in 2000. This industry uses $11.6 billion worth of for-hire transportation services output. It is the third largest user of own-account transportation, spending $3.7 billion, or 9.4 per cent of total own-account transportation.

Manufacturing is the second the largest user of transportation services, spending $16.1 billion in 2000. It is also the second largest user of own-account transportation, spending $5.2 billion, or 13.4 per cent of total own-account transportation. This industry uses $3.3 billion worth of for-hire transportation services output.

The wholesale and retail trade industry is the third largest user of transportation services, spending $15.4 billion in 2000. It is the largest user of own-account transportation, spending $11.8 billion, or 30 per cent of total own-account transportation. This industry uses $3.4 billion worth of for-hire transportation services output.

The automotive leasing, rental, repair and maintenance industry is the smallest user of transportation services spending $0.4 billion in 2000. However of this total, 70 per cent was spent on own-account transportation.

The use of own-account transportation can also be measured in terms of its share of an industry's total costs. In these terms, the wholesale and retail trade industry is the largest user at 6.9 per cent, followed by the agriculture, forestry and fishing industries at 2.8 per cent and the automotive leasing, rental, repair and maintenance industry at 2.7 per cent. The same measure of for-hire transportation shows the commercial, professional, personal and other service industries with the largest direct requirement of 4.1 per cent of their total costs. This is followed by the education services industry at 2.9 per cent.

For-hire transportation industries produce and consume own-account transportation services when a given mode of for-hire transport produces and consumes the services of other modes, which are then regarded as own-account from the perspective of the given for-hire mode. Together, for-hire transportation industries accounted for $9.3 billion in 2000 or 23.7 per cent of the total production of own-account transportation services. Of this total, the "other for-hire transportation service" industry accounted for $4.2 billion while the trucking and delivery van service industry accounted for $3.0 billion.

Trucking and delivery van services represented 63.5 per cent of the total value-added by transportation services in 2000, 37.1 per cent for own-account transportation and 26.4 per cent for for-hire trucking. Air services accounted for 8.3 per cent of transportation's total value-added, 7.3 per cent for for-hire and 1.0 percent for own-account services. Rail services accounted for 7.0 per cent of value-added of transportation services, 0.6 per cent for own-account and 6.4 per cent for for-hire services. Urban, interurban and other ground transportation services assumed a 5.2 per cent share of the total value-added by transportation services, 1.1 per cent of own-account and 4.1 per cent of for-hire services. Marine transportation services assumed a 3.4 per cent share of the total value-added by transportation services, 2.0 per cent of own-account and 1.4 per cent of for-hire services.

From the CTSA, multipliers that capture the direct and indirect interdependencies between transportation and the rest of the economy can be derived. An increase of $1 in final demand for the output of the wholesale trade industry requires an increase of $0.13 in total transportation services output, compared with $0.03 for the finance, insurance and real estate services industries.

Demands for for-hire transportation services are more sensitive to changes in the output levels of the goods-producing industries while the demands for own-account transportation services are more sensitive to changes in the output levels of the services industries.

GOVERNMENT SPENDING ON TRANSPORTATION 3

Transportation expenditures by all levels of government were close to $22 billion in 2004/05.

This chapter summarizes all transportation expenditures and revenues by level of government and gives an overview of the financial implications of public-sector involvement in transportation. A synopsis of federal and provincial revenues from transportation users is followed by a detailed breakdown of expenditures by level of government. Finally, the chapter presents consolidated expenditures broken down by mode.

GOVERNMENT TRANSPORTATION EXPENDITURES

Transportation expenditures by all levels of government reached approximately $21.9 billion in 2004/05, an increase of $1.5 billion, or 7.3 per cent from the previous year. Table 3-1 shows these expenditures from 2001 on. Transportation spending by governments on a per capita basis also increased 6.3 per cent to $683. All levels of government contributed to this growth; however, the largest increase was by provincial/territorial governments, with an increase in their net spending of $1.1 billion or 13.4 per cent. Local governments increased their net spending by $25.8 million, or 0.3 per cent. Federal transport expenditures increased by $328 million, or 12.4 per cent, and are expected to increase by $338 million or 11.4 per cent in 2005/06. All government fees and tax revenues from transport users totalled $15.6 billion in 2004/05, up 1.5 per cent. Federal non-tax revenues from transport users are expected to be basically unchanged in 2005/06 at $789 million, following an increase of 0.9 per cent in 2004/05.

TABLE 3-1: GOVERNMENTS' GROSS AND NET EXPENDITURES ON TRANSPORTATION, 2001/02 – 2005/06

(Millions of dollars)

	2001/02	*2002/03*	*2003/04*	*2004/05*	*2005/06F*
Transport Canada expenses (Gross)[1]	1,529	1,352	1,382	1,431	1,499
Other federal expenses (Gross)	783	1,163	1,256	1,535	1,805
Provincial/Territorial[2]	7,646	8,049	8,475	9,614	N/A
Local[3]	8,421	8,671	9,278	9,304	N/A
Total gross transport expenditures	18,379	19,235	20,390	21,884	N/A
Gross expenditures per capita	591	612	642	683	N/A
Transport Canada revenues	371	423	334	365	397
Other federal revenues[4]	37	460	449	425	392
Specific tax revenues from transport users[5]	13,359	13,949	14,549	14,767	N/A

Notes: N/A = Not available. More yearly data are available on Transport Canada Web site (www.tc.gc.ca). Some figures from previous years have been modified and therefore do not match last year's report. Totals may not add up due to rounding.

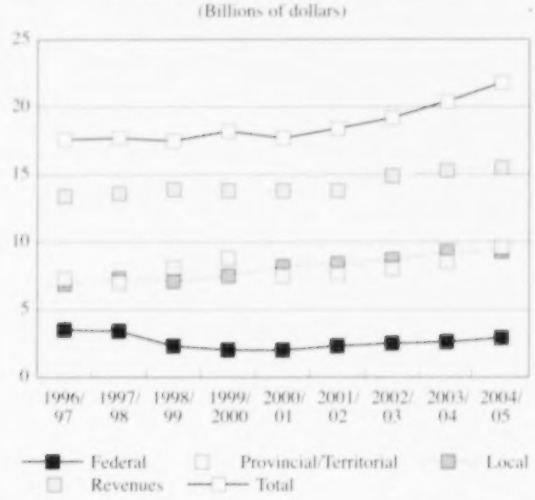
1. Excludes transfers of $22 million to Crown corporations not involved in transport in 2002/03 and 2003/04.
2. Net of federal transfers as reported by the provinces.
3. Calendar year basis, net of federal and provincial transfers.
4. Revenues from Coast Guard services and small port users.
5. Federal excise fuel taxes, and provincial motive fuel taxes and licence fees.

F Forecast at January 31, 2006, of full year.

Source: Main Estimates of the Government of Canada; Transport Canada, Finance Directorate; The Canadian Transportation Agency; Internal reports from several agencies and federal departments; Provincial/Territorial Departments of Transportation; Statistics Canada, Public Institutions Division, unpublished data.

Figure 3-1 shows the trend in spending by level of government from 1996/97 to 2004/05. Up to 2000/01, total government expenditures averaged around $17.8 billion, but have increased slightly in each of the past four years. Net local expenditures rose every year over this period, other than a slight decline in 1998/99. Both net provincial/territorial and federal expenditures have had larger periods of declines. Net provincial/territorial expenditures reached $8.8 billion in 1999/2000, but then fell to $7.5 billion in 1999/2000. Only in 2004/05 did they surpass the previous peak. Federal expenditures fell from $3.5 billion in 1996/97 to $2.0 billion in 1999/2000 and 2000/01 after which they rose steadily to reach 3.0 billion in 2004/05. Total revenues have also risen each year after hovering around $13.7 billion until 2001/02.

FIGURE 3-1: GOVERNMENT EXPENDITURES AND REVENUES ON TRANSPORTATION, 1996/97 – 2004/05



Source: Main Estimates of the Government of Canada; Transport Canada, Finance Directorate; The Canadian Transportation Agency; internal reports from several agencies and federal departments; provincial/territorial departments of transportation; Statistics Canada, Public Institutions Division, unpublished data.

FEDERAL EXPENSES RELATED TO TRANSPORT FACILITIES AND SERVICES

The Government of Canada provides modal safety, security and policy services, and operates roads and bridges, airports, harbours/ports and marine navigational and rescue services (Coast Guard). From security and emergency preparedness to regulating and monitoring the transportation of dangerous goods, Transport Canada performs several multimodal activities. As Table 3-2 shows, total direct federal transport expenses in 2005/06 are forecast to fall by 3.4 per cent to $2.0 billion. The two main categories of government activity in transportation are: operations; and safety, security and policy. Expenses related to operations have been fairly constant for the past six years but are expected to decrease by $27.9 million (2.9 per cent) in 2005/06 to $950 million. Expenditures on safety, security and policy are also expected to decrease in 2005/06, falling by $51 million or 5.2 per cent to $930 million. Prior to this forecasted decline, spending in this category had risen by $628 million since 2000/01, peaking at $981 million in 2004/05. Major increases in recent years are related to commitments to security in the air sector, in particular, spending by the Canadian Air Transport Security Authority.

TABLE 3.2: FEDERAL OPERATING, MAINTENANCE AND CAPITAL EXPENDITURES, 2001/02 – 2005/06

(Millions of dollars)

	2001/02	*2002/03*	*2003/04*	*2004/05*	*2005/06[E]*
Operations	**945**	**934**	**924**	**978**	**950**
Airports	75	56	75	59	47
Aircraft services	59	57	62	65	65
Coast Guard	475	498	505	543	548
Ports and harbours[1]	117	118	126	137	116
Roads and bridges[2]	208	193	149	163	164
Research and development	10	13	10	10	10
Safety, Security and Policy	**446**	**686**	**791**	**981**	**930**
Canadian Air Transport Security Authority		259	351	513	438
Air Safety and Policy[3]	162	169	190	173	157
Marine Safety and Policy[4]	56	59	58	105	126
Road and Rail Safety and Policy	46	53	48	49	51
Multimodal Policy and Safety[5]	181	146	144	142	157
Corporate Services of Transport Canada	**124**	**131**	**119**	**121**	**129**
Total	**1,514**	**1,750**	**1,834**	**2,080**	**2,009**

Note: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca).

1. Includes expenses for small fishing ports by Fisheries and Oceans Canada.
2. Includes contributions by Transport Canada to the Jacques Cartier and Champlain Bridges, and expenses of the National Capital Commission, Public Works and Government Services Canada, Parks Canada, and Indian and Northern Affairs Canada.
3. Includes expenses of the Civil Aviation Tribunal.
4. Includes statutory payments to St. Lawrence Management Corporation for Capital Cash Fund Requirements of $17.5 million in 2004/05 and $28.0 million in 2005/06.
5. Includes expenses for the regulation and inspection of the transportation of dangerous goods, Security and Emergency Preparedness, the Canadian Transportation Agency, and other multimodal safety, policy and analysis. Large increases in 2001/02 related to the purchase of explosive detection equipment.

E Forecast January 31, 2006 of full year.

Source: Transport Canada

FEDERAL SUBSIDIES TO TRANSPORTATION

In 2005/06, total federal direct subsidies, grants and contributions are projected to be $1,294 million, an increase of $409 million or 46.2 per cent. Subsidies to the air mode are expected to rise 7.0 per cent to $45.1 million. Marine subsidies increased 77 per cent to $250 million as port divestiture payments increased $44 million, there were expected to be new marine security payments of $33 million and there was a $35 million payment to the Toronto Port Authority for a litigation settlement. Subsidies to the rail mode decreased by $15 million, reflecting a $22 million drop in payments to VIA Rail. Highway mode subsidies are expected to rise by $310 million in 2005/06 although highway agreement payments are scheduled to drop $43 million, payments by Infrastructure Canada are forecast to increase by $344 million. Table 3-3 gives more details on these subsidies.

TABLE 3-3: DIRECT FEDERAL SUBSIDIES, GRANTS AND CONTRIBUTIONS BY MODE, 2001/02 – 2005/06

(Millions of dollars)

	2001/02	2002/03	2003/04	2004/05	2005/06[F]
Air Mode					
Airport (Operation & Capital)	50.6	35.3	38.4	30.6	43.2
Airport/airline assistance[1]	123.9	25.4	4.5	-	-
Other	2.9	2.7	3.2	11.5	1.9
Total Air	177.4	63.4	46.0	42.1	45.1
Marine Mode					
Marine Atlantic	36.8	46.4	41.6	72.9	70.2
Transfers to ports[2]	21.6	22.1	65.7	27.1	70.7
Other ferry and coastal services	31.7	32.2	32.0	33.6	34.2
Marine security					32.8
Other[3]	24.5	8.6	5.5	7.9	42.3
Total Marine	114.6	109.2	144.8	141.4	250.3
Rail Mode					
VIA Rail	310.2	255.7	264.2	191.3	169.0
Hopper cars	16.4	16.0	12.9	12.3	12.0
Grade crossings	7.5	7.5	7.5	7.4	7.4
Other	8.3	8.6	8.9	20.1	27.2
Total Rail	342.5	287.8	293.6	231.1	215.7
Highway Modes					
Transition programs[4]	23.7	37.2	33.7	33.6	29.9
Highway agreements[5]	69.0	101.4	116.2	205.2	162.7
Infrastructure program	7.4	33.7	45.9	133.1	477.3
Fixed link in Prince Edward Island	48.6	49.2	51.4	52.0	53.3
Other[6]	11.3	13.2	15.8	10.3	17.9
Total Highway Modes	159.9	234.8	263.0	434.2	744.4
Transit Systems[7]	**2.4**	**66.3**	**53.7**	**29.4**	**28.4**
Grand Total[8]	**797.7**	**763.0**	**803.4**	**885.6**	**1,294.5**

Notes: More detailed data are available on Transport Canada's Web site (www.tc.gc.ca). Transport related expenditures by regional development agencies have been added retroactively.

1 Includes air carrier assistance of $99 million in 2001/02 and a cabin security enhancement program of $28 million and $6 million in 2002/03 and 2003/04, respectively.
2 Includes contributions to the Port Divestiture Fund, a payment of $36 million to the Government of Quebec for the transfer of ferry wharves in 2000/01 and $64 million for the payment of a loan guarantee to Ridley Terminals in 2003/04.
3 Includes a payment of $21.4 million to Hamilton Harbour Commission in 2001/02 and a payment of $35 million to the Toronto Port Authority in 2005/06 for the settlement of a civil litigation.
4 Offset federal programs to the elimination of *Western Grain Transportation Act* programs.
5 Includes $33 million in 2002/03 and $78 million in 2003/04 under the Strategic Highways Infrastructure Program.
6 Includes in 2002/03 and 2003/04 the estimated road portion of the Toronto Waterfront Revitalization Project.
7 Spending included previously under Highway Modes.
8 Includes small amounts not classified elsewhere.
F Forecast at January 31, 2006, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; Provincial/Territorial Departments of Transportation.

DISTRIBUTION OF PROVINCIAL/TERRITORIAL AND LOCAL EXPENDITURE BY PROVINCE[1]

In 2004/05, provincial, territorial and local governments spent $18.9 billion on transportation net of transfers from the federal government. This was a 6.6 per cent increase over 2003/04. Spending by both levels of government is similar in magnitude. Net expenditures by provinces/territories increased by $1.1 billion (13.4 per cent) to $9.6 billion, reaching a new peak; while local net expenditures rose by $26 million (0.3 per cent) to $9.3 billion, also a new high.

At $6.6 billion in 2004/05, or 35.1 per cent of the national total, net expenditures on transportation by the provincial and local governments in Ontario were the highest of any province or territory. Next highest was Quebec with $4.2 billion (22.3 per cent), followed by British Columbia with $2.8 billion (15.0 per cent) and Alberta with $2.4 billion (12.8 per cent).

On a per capita basis, the territories spent the most. The Yukon led with $2,535 per person in 2004/05. Provincially, Alberta and New Brunswick spent the most per capita on transport, more than $700. The average for all jurisdictions was $590 per person. Addendum Tables A3-5 and A3-6 give further details.

Over the past five years (2000/2001 to 2004/05), provincial/territorial and local governments have spent an average of 3.1 per cent more per year on transportation. Nova Scotia, Quebec and Alberta all have average increases of more than five per cent.

Federal transfers in 2004/05 were equivalent to 1.9 per cent of transport spending by local and territorial governments. The Northwest Territories was the most reliant on federal transfers, with 27.3 per cent of its transport spending dependent on federal transfers. New Brunswick followed at 6.0 per cent.

Spending on highways and roads is the most important category of transport-related expenditures for all provinces. In 2004/05, it accounted for about 80 per cent of total net spending by provincial/territorial and local governments. Nationally, provincial spending and local spending in this category each accounted for about 40 per cent.

Other modes are significant for some provinces/territories. Marine transportation is important for Newfoundland and Labrador, where it made up nine per cent of total provincial and local government net transport spending in 2004/05. Spending on air transportation is significant for the territories, accounting for 20 per cent of transport spending in the Northwest Territories. Expenditures on transit are important in the most populous provinces: in Ontario they accounted for 18.4 per cent, in Quebec 14.8 per cent and in British Columbia 14.0 per cent.

1 Detailed data are available in the Addendum to this report on Transport Canada's Web site (www.tc.gc.ca).

TOTAL TRANSPORTATION REVENUES BY LEVEL OF GOVERNMENT

The federal government generates revenues from the use of transportation facilities and services. Revenues from cost-recovery initiatives credited to the budgets of federal departments and revenues from other sources credited to the federal government's Consolidated Revenue Fund are both included in this analysis. Revenues collected from transport users include excise fuel taxes collected by the federal and provincial governments, as well as provincial licence and other fees. Table 3-4 highlights government revenues from transport users from 2001/2002 to 2005/06.

TABLE 3-4: GOVERNMENT REVENUES FROM TRANSPORT USERS, 2001/02 – 2005/06

(Millions of dollars)

	2001/02	*2002/03*	*2003/04*	*2004/05*	*2005/06[9]*
Airport revenues	264	319	226	253	298
Aircraft services	34	26	23	31	30
Air Travellers Security Charge	-	421	410	383	340
Marine revenues[1]	70	68	72	74	83
Leases of hopper cars[2]	14	15	19	17	15
Other fees and recoveries[3]	26	33	34	31	22
Total	408	883	783	799	789
Federal fuel taxes	4,758	4,873	5,081	5,186	N/A
Public and non-transport use[4,5]	396	383	400	402	N/A
Road[5]	4,176	4,300	4,481	4,576	N/A
Other modes[5]	186	190	200	208	N/A
Provincial/territorial fuel taxes	7,012	7,343	7,688	7,813	N/A
Sales tax equivalent[5,6]	784	795	863	961	N/A
Road[5]	5,981	6,299	6,580	6,584	N/A
Other modes[5]	247	249	244	267	N/A
Provincial/territorial licences/fees[7]	2,769	2,911	3,043	3,132	N/A
Total tax revenues from transport users	13,359	13,949	14,549	14,767	N/A
Total tax and fee revenues from transport users	13,767	14,832	15,332	15,557	N/A

Notes: N/A = Not available. More yearly data are available on Transport Canada's Web site (www.tc.gc.ca).

1 Includes Coast Guard user fees and sales of marine assets credited to the Consolidated Revenue Fund.
2 Credited to the Consolidated Revenue Fund.
3 Includes air safety fees, other licensing and administrative fees, inter- and intra-departmental transfers for services and various regulatory fees credited to either Transport Canada or the Consolidated Revenue Fund.
4 Estimated fuel taxes from public administrations and mobile users of the public transport system.
5 Estimates by Transport Canada (revised).
6 Estimates based on the sales tax that would have applied to provincial fuel prices.
7 The amounts shown exclude licences and registration fees dedicated to the Société de l'assurance automobile du Québec.
8 Forecast at January 31, 2006, of full year.

Source: Transport Canada; Fisheries and Oceans Canada; Statistics Canada; provincial/territorial departments of transportation

In 2004/05, the most recent year for which budget information is available for all government levels, federal and provincial/territorial governments collected $15.6 billion from transport users through fuel taxes and permit and licence fees. This was a 1.5 per cent increase from 2003/04. At $11.2 billion in 2004/05, road fuel taxes make up the largest component of government tax revenues from transportation. This was a one per cent increase over 2003/04, after increases of over four per cent in each of the two previous years. Other fuel tax revenues rose $31 million in 2004/05 to $475 million. Total fuel taxes made up 75 per cent of total revenues by transport users.

In 2005/06, federal government transportation revenues other than fuel taxes are expected to remain basically the same at $789 million. The main factor behind this is that while airport lease payments are expected to increase by $46 million, revenues from the Air Travellers Security Charge are expected to fall by $43 million. Marine fees are expected to increase to $83 million from $74 million. Table 3-4 also shows other federal revenues not credited to transport, such as revenues from the leases of hopper cars or the sale of port assets.

OVERVIEW OF EXPENDITURES AND REVENUES BY MODE

The following section summarizes consolidated federal expenses, as well as expenditures by provincial/territorial and local governments, netted of transfers received from other levels of government from 2001/2002 to 2005/06. Table 3-5 shows transport expenditures and revenues by mode and level of government for this period.

In 2004/05, total government spending on roads rose 8.0 per cent to $15.8 billion, accounting for 72 per cent of overall spending on transportation. Road expenditures have risen steadily at an average annual rate of 4.9 per cent for the past five years. Revenues from road users were $14.3 billion in 2004/05 for net expenditures of $1.5 billion.

Public funding for transit systems was $2.7 billion in 2004/05, almost unchanged from 2003/04, and accounted for 12 per cent of all government expenditures on transportation.

In 2004/05, the air mode accounted for $946 million, or 4.3 per cent of gross government spending on transportation. In the last five years air-related public spending has increased at an average rate of 18 per cent. This increase in spending reflects the new initiatives related to safety and security.

Public spending related to the marine mode increased 10.7 per cent to $1.2 billion in 2004/05. The share of public spending on transportation in the marine mode is about five per cent.

Public spending on rail transportation fell by 17 per cent to $287 million in 2004/05 and dropped to 1.3 per cent of gross government spending on transportation. The drop is due to reduced VIA Rail subsidies.

The federal and provincial governments spent $2.4 billion on the air, marine and rail modes combined in 2004/05. They took in $1.2 billion in fees and tax revenues from transport users in these modes in the same year.

The category "Other/Overhead" in Table 3-5 includes overhead expenses by all levels of government and expenditures related to multimodal activities. This category accounts for about four per cent of government transportation spending.

TABLE 3-5: TRANSPORT EXPENDITURE/REVENUES BY MODE AND LEVEL OF GOVERNMENT, 2001/02 – 2005/06

(Millions of dollars)

	2001/02	*2002/03*	*2003/04*	*2004/05*	*2005/06F*
Federal Operating and Maintenance, Capital and Subsidies[1]					
Air	474	605	724	852	752
Marine	763	784	833	927	1,041
Rail	363	313	315	255	242
Road	393	456	436	622	433
Transit	2	66	54	29	28
Other/Overhead	316	290	276	280	307
Subtotal	2,312	2,515	2,638	2,966	3,303
Provinces/Territorial/Local[2]					
Air	81	78	80	94	N/A
Marine	182	205	240	260	N/A
Rail	27	30	31	31	N/A
Road	13,040	13,505	14,164	15,143	N/A
Transit	2,296	2,379	2,678	2,662	N/A
Other/Overhead	442	522	559	728	N/A
Subtotal	16,068	16,720	17,752	18,918	N/A
Total Expenses: All Government Levels					
Air	554	683	804	946	N/A
Marine	945	989	1,072	1,187	N/A
Rail	390	343	347	287	N/A
Road	13,433	13,962	14,600	15,765	N/A
Transit	2,299	2,445	2,732	2,691	N/A
Other/Overhead	758	812	834	1,008	N/A
Subtotal	18,379	19,235	20,390	21,884	N/A
Government Revenues From Transport Users[3]					
Road users	12,926	13,510	14,106	14,295	N/A
Rail, Air and Marine	837	1,312	1,213	1,246	N/A
Multimodal	4	10	12	16	N/A
Total	13,767	14,832	15,332	15,557	N/A

Note: N/A = Not available. More details are available on Transport Canada's Web site (www.tc.gc.ca)

1. From tables 3-2 and 3-3.
2. Transport Canada; provincial/territorial departments of transportation. Many provinces have moved to unconditional grants to local governments, transportation transfers may therefore be underreported. Net expenses by local governments are netted against transfers reported by provincial governments. Statistics Canada, Public Institutions Division; data are on a calendar year basis.
3. From Table 3-4.

F – Forecast at January 31, 2006, of full year.

Source: Transport Canada, Fisheries and Oceans Canada, provincial/territorial departments of transportation

TRANSPORTATION SAFETY AND SECURITY 4

Canadians' confidence in transportation security in all modes continued to increase. There were fewer fatalities in the road and marine transportation modes; however, there was an increase in fatalities in aviation and a slight increase in rail. The number of reported accidents decreased in the road and marine transportation modes, and increased for rail and aviation transportation modes.

Transport Canada promotes the safety and security of Canada's transportation system, which consists of the air, marine, rail and road modes of transportation, and includes the transportation of dangerous goods. The aim of a safe and secure transportation system is to protect the country's citizens from those occurrences that result in the loss of or damage to life, health and property. It also enables the efficient flow of people and goods, protects the environment from pollution that can result from occurrences, and is an essential component for a healthy population, a high quality of life, and a prosperous economy.

Through policy development, rule making, monitoring and enforcement, and outreach activities, Transport Canada supports the safety and security objective. For all modes of transportation, the department establishes and implements legislation, regulations, standards and policies. Its monitoring and enforcement activities include issuing licences, certificates, registrations and permits; monitoring compliance through audits, inspections and surveillance; and taking appropriate enforcement action in instances of non-compliance. In particular, the department has inspectors who monitor the system to make sure the rules are being followed, and, if required, have the means to enforce the policies and rules. Outreach activities make transportation system users and industry aware of the requirements and involve efforts to promote, educate and increase awareness of safety and security issues.

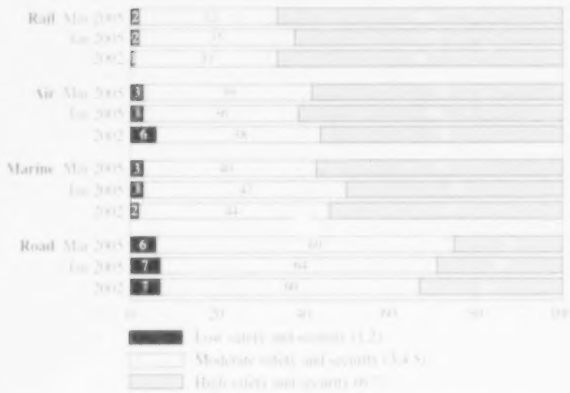
Many different stakeholders share the responsibility for the safety and security of the transportation system. Transport Canada collaborates with other federal departments and agencies whose programs and services may be affected by transportation activities. For example, with respect to promoting aviation security, this responsibility is shared with the Canadian Air Transport Security Authority (CATSA). CATSA is responsible for delivering air transport security services in accordance with Transport Canada regulations and standards.

Transport Canada works with provincial, territorial and municipal governments particularly with respect to the maintenance of the highway system, enforcement of road safety and the co-delivery of the Transportation of Dangerous Goods (TDG) program. Transport Canada also works closely with transportation sector industries, agencies and associations, all of which have a vested interest in transportation infrastructure, the regulatory regime and transportation safety and security.

In addition, Transport Canada collaborates with other countries, such as the United States and Mexico, and with other international partners, such as the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO), to harmonize safety and security standards and to share best practices in safety and security systems.

Canada's transportation system is already one of the safest and most secure in the world. Even so, the country continues to work diligently to further improve the system. Transport Canada measures the public confidence in the safety and security of each transportation mode. The data reveal that, in the case of all four transportation modes, at least 95 per cent of those Canadians who have an opinion give either a *moderately* or a *very* safe and secure rating. These most recent available ratings (March 2005) are shown in Figure 4-1.

FIGURE 4-1: PUBLIC'S CONFIDENCE RATING OF THE SAFETY AND SECURITY OF AIR, RAIL, MARINE AND ROAD TRAVEL



Transportation safety is measured by the number of occurrences that result in an accident. In 2005, there were a record low number of accidents in marine. However, there was an increase in accidents for the rail and aviation transportation modes and for those involving the transportation of dangerous goods. The number of fatalities increased in both rail and aviation transportation. The number of fatalities decreased both for marine transportation and for where the transportation of dangerous goods was involved.

The number of road fatalities decreased in 2004 (latest data). Moreover, the number of transportation-related fatalities has remained below the previous five-year averages in aviation, road, and the transportation of dangerous goods. With the exception of a fluctuation in 2004 for rail, the safety performance record observed in the three other transportation modes has contributed toward a long-term downward trend in accidents reported over the past 10 years.

Implementing the Safety Management Systems (SMS) is one of the key evolving strategic directions being undertaken by Transport Canada to further improve on the transportation safety performance over the long term. The SMS is a formal framework for integrating safety performance into day-to-day operations within the transportation industry. Implementation of SMS regulations is well under way in rail; the marine SMS is moving toward increased adoption for operators of Canadian domestic vessels. New SMS regulations for aviation came into effect in May 2005.

In 2005, with respect to transportation security, Transport Canada continued a number of activities to further enhance transportation security, including legislative and regulatory enhancements, programs, and international initiatives. The department also actively contributed to federal government initiatives to enhance security, such as the National Security Policy and the Security and Prosperity Partnership.

Canadians are confident in the security of air travel. This confidence continued to increase in 2005. For example, one half (49 per cent) of those surveyed reported having high confidence in the security of air travel. This confidence has been growing since 2002, when only slightly more than one third (36 per cent) expressed confidence. This is an increase in confidence of 13 percentage points over the last three years. Canadians also believe that there are sufficient security procedures in place to protect them. Even if they do not feel immune to the activities of terrorists, they do, nevertheless, feel confident in the effectiveness of the security measures that have been implemented.

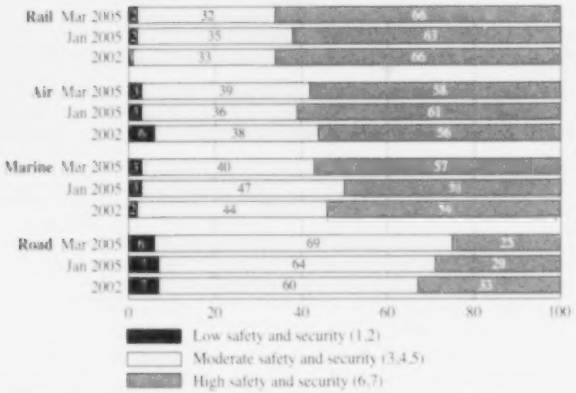
Developments and initiatives concerning the safety and security of Canada's transportation system during 2005 are reviewed in this chapter. It begins with a review by mode of the 2005 safety records and is followed by a discussion and review of transportation security and the related enhancements undertaken in 2005.

TRANSPORTATION SAFETY

This section reports the most recent safety-related statistics for all modes of transportation and for the transportation of dangerous goods. The reports of accidents and incidents made to the Transportation Safety Board (TSB) are one of the principal sources of safety-related occurrence statistics. Accidents are those occurrences that have resulted in the loss of or damage to life, health and property. Incidents are those occurrences that have the potential to result in an accident. It is important to note that the specific definitions of a reportable TSB accident and incident vary according to the transportation mode. (See the TSB Regulations at www.tsb.gc.ca/en/common/acts.asp for details on aviation, marine and rail.) Data on road collisions reported to the police are collected by the provinces and territories under the agreement of the Canadian Council of Motor Transport Administrators and provided to Transport Canada to develop the national casualty collision statistics.

FIGURE 4-1: PUBLIC' S CONFIDENCE RATING OF THE SAFETY AND SECURITY OF AIR, RAIL, MARINE AND ROAD TRAVEL

"Canada's transportation system includes air, rail, road, and marine travel. How would you rate the overall SAFETY AND SECURITY of each of the following modes of transportation?"



Source: Perceptions of Air Travel Safety and Security in Canada: Wave IV, EKOS Research Associates (April 29, 2005).

Transportation safety is measured by the number of occurrences that result in an accident. In 2005, there were a record low number of accidents in marine. However, there was an increase in accidents for the rail and aviation transportation modes and for those involving the transportation of dangerous goods. The number of fatalities increased in both rail and aviation transportation. The number of fatalities decreased both for marine transportation and for where the transportation of dangerous goods was involved.

The number of road fatalities decreased in 2004 (latest data). Moreover, the number of transportation-related fatalities has remained below the previous five-year averages in aviation, road, and the transportation of dangerous goods. With the exception of a fluctuation in 2004 for rail, the safety performance record observed in the three other transportation modes has contributed toward a long-term downward trend in accidents reported over the past 10 years.

Implementing the Safety Management Systems (SMS) is one of the key evolving strategic directions being undertaken by Transport Canada to further improve on the transportation safety performance over the long term. The SMS is a formal framework for integrating safety performance into day-to-day operations within the transportation industry. Implementation of SMS regulations is well under way in rail; the marine SMS is moving toward increased adoption for operators of Canadian domestic vessels. New SMS regulations for aviation came into effect in May 2005.

In 2005, with respect to transportation security, Transport Canada continued a number of activities to further enhance transportation security, including legislative and regulatory enhancements, programs, and international initiatives. The department also actively contributed to federal government initiatives to enhance security, such as the National Security Policy and the Security and Prosperity Partnership.

Canadians are confident in the security of air travel. This confidence continued to increase in 2005. For example, one half (49 per cent) of those surveyed reported having high confidence in the security of air travel. This confidence has been growing since 2002, when only slightly more than one third (36 per cent) expressed confidence. This is an increase in confidence of 13 percentage points over the last three years. Canadians also believe that there are sufficient security procedures in place to protect them. Even if they do not feel immune to the activities of terrorists, they do, nevertheless, feel confident in the effectiveness of the security measures that have been implemented.

Developments and initiatives concerning the safety and security of Canada's transportation system during 2005 are reviewed in this chapter. It begins with a review by mode of the 2005 safety records and is followed by a discussion and review of transportation security and the related enhancements undertaken in 2005.

TRANSPORTATION SAFETY

This section reports the most recent safety-related statistics for all modes of transportation and for the transportation of dangerous goods. The reports of accidents and incidents made to the Transportation Safety Board (TSB) are one of the principal sources of safety-related occurrence statistics. Accidents are those occurrences that have resulted in the loss of or damage to life, health and property. Incidents are those occurrences that have the potential to result in an accident. It is important to note that the specific definitions of a reportable TSB accident and incident vary according to the transportation mode. (See the TSB Regulations at www.tsb.gc.ca/en/common/acts.asp for details on aviation, marine and rail.) Data on road collisions reported to the police are collected by the provinces and territories under the agreement of the Canadian Council of Motor Transport Administrators and provided to Transport Canada to develop the national casualty collision statistics.

Collecting and processing the high volumes of data for more than 600,000 crash case occurrences annually can take over a year to compile before the statistics are released at the jurisdictional and national levels. Transport Canada is the primary source for the transportation of dangerous goods-related occurrence statistics. (See the Transportation of Dangerous Goods (TDG) Regulations on reporting requirements at: www.tc.gc.ca/tdg/clear/part8.htm.) Safety-related occurrence statistics are indicators of the transportation system's safety performance and help focus efforts on initiatives and activities that have high safety benefits. At the same time, efforts continue to better align and link safety-related data with Transport Canada's key safety initiatives. In this year's report, these data alignment efforts are reflected for aviation where the TSB source data aligns with the Canadian Aviation Regulations for the *Flight 2005* strategic plan. (For more information, see Aviation Safety in this chapter.)

In 2005, the number of aviation accidents rose 1.6 per cent over 2004. Marine accidents were down 8.2 per cent over 2004. Reported rail accidents increased, however, by 9.8 per cent. The latest available statistics for road casualty collisions (2004) show a decrease of 3.6 per cent over 2003. Reportable accidents involving the transportation of dangerous goods increased from 370 in 2004 to 412 in 2005.

The safety performance of the transportation system can also be measured by the number of fatalities. In 2005, there were no fatalities caused by dangerous goods in a transport accident and there were fewer fatalities in the marine transportation mode. However, there was an increase in fatalities in both the aviation and rail modes. From 2003 to 2004 (the most recent statistics), there was a decrease of 1.3 per cent in road-related fatalities. Table 4-1 and the more detailed Table A4-1 in the Addendum summarize the modal safety record, including the transportation of dangerous goods.

To ensure the year-over-year analysis and modal comparisons are complete, both the long-term trends and specifics of each mode, including level of activity and the changes in exposure to risk, should be taken into account. That said, overall, accident rates for air in 2005 increased slightly over 2004, while remaining below the previous five-year average. The accident rate for marine, (available only for commercial vessels of over 15 gross tons) has declined over both the 2004 rate and the previous five-year average. The rate for road accidents decreased in 2004 and was once again the lowest for the past 10 years.

TABLE 4-1: SUMMARY OF TRANSPORTATION SAFETY STATISTICS BY MODE

	Aviation[1]	*Marine*[2]	*Rail*[3]	*Road*[4]	*TDG*[5]
Accidents					
2005	245	405	1,248	N/A	412
2004	241	441	1,138	151,300	370
2003	-	-	-	156,904	-
Five-year average (2000 – 2004)	277.4	446.6	1,055.40	156,631	415
Fatalities					
2005	47	18	103	N/A	0
2004	34	27	101	2,730	1
2003	-	-	-	2,766	-
Five-year average (2000 – 2004)	50	25	92.2	2,878	1

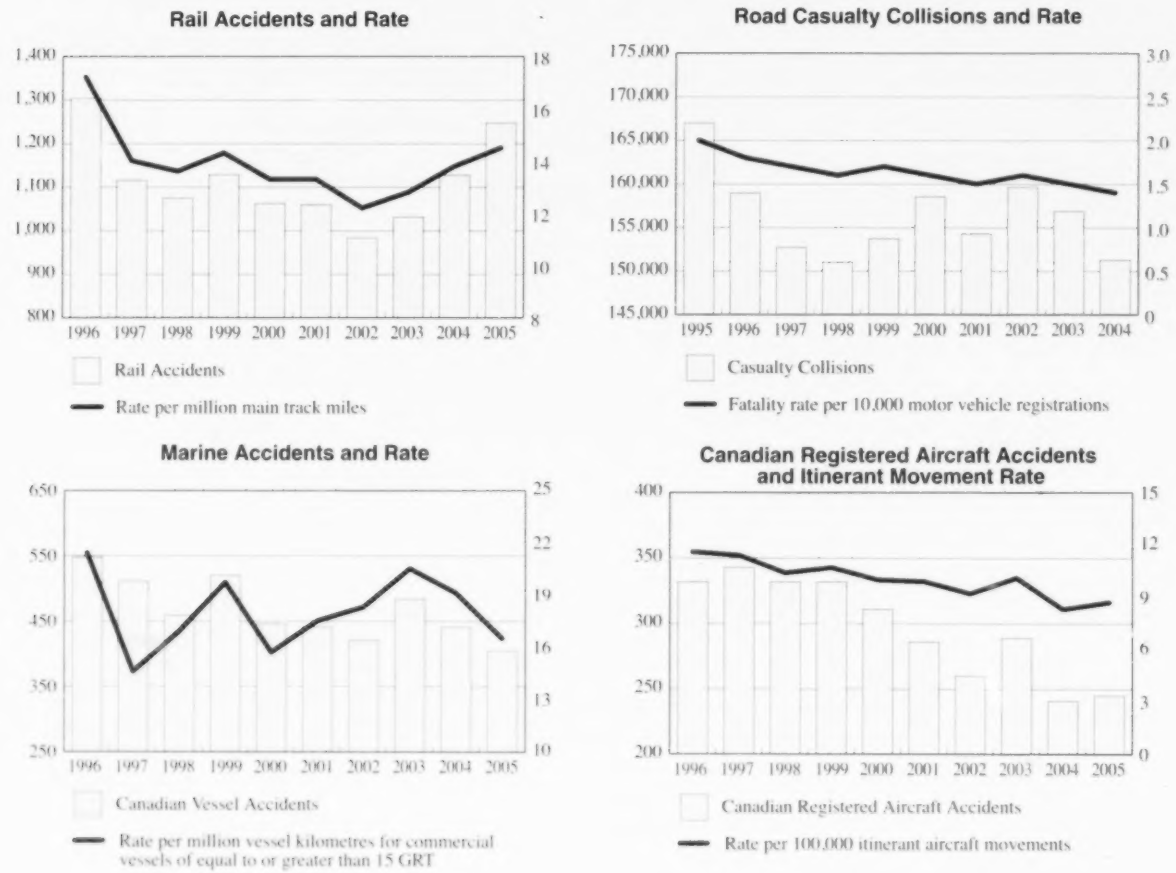
Note: Preliminary data for 2005.

1. Canadian-registered aircraft, other than ultralights, based on the Canadian Aviation Regulations.
2. Accidents involving Canadian-registered vessels.
3. Railways under federal jurisdiction.
4. Road statistics relate to 2004 (most recent road safety statistics) and to the 1999 – 2003 five-year averages. Road accidents are casualty collisions, which exclude collisions in which only property is damaged.
5. Accidents where transportation of dangerous goods were involved. Fatality data relate to only those deaths caused by the dangerous goods.

Source: Transportation Safety Board, Transport Canada and Statistics Canada

The 2005 rate for rail accidents was up over recent years, but remained below the rates of the 1990s. The rates also capture changes in the levels of activity measures; as the level of activity increases, so does the exposure to risk. Both have contributed to the the changes in the number of accidents. Figure 4-2 shows the 10-year trend for the four modes. The trend, despite observed fluctuations from one year to another, is generally downward in terms of both number of accidents and accident rates per activity level. It is important to note that, because the activity measure is particular to each mode, these rates are only a basis for interpreting the occurrence statistics within each mode and not for comparing across modes. In addition, the available activity measure (denominator), representing to a certain extent all or key operations of modal activities, may have its own set of data limitations. For more details, including information on limitations of data, see Table A4-1 in the Addendum.

FIGURE 4-2: ACCIDENTS AND ACCIDENT RATES PER ACTIVITY MEASURE FOR RAIL, ROAD, MARINE AND AVIATION



Source: Transportation Safety Board, Transport Canada and Statistics Canada

Rail Safety

The number of rail accidents increased from 1,138 in 2004 to 1,249 in 2005, 18.4 per cent above the previous five-year average (1999-2003) of 1,055 accidents. An accident rate of 13.0 per million train-miles (includes main track train-miles and yard switching-miles) was observed for the year, up from 12.5 in 2004 and the previous five-year average of 11.6.

The increase in 2005 was attributed mainly to a greater number of non-main track derailments (538 in 2005 versus 450 in 2004) and crossing collisions (270 in 2005 versus 237 in 2004). Non-main track accidents (which accounted for 64.7 per cent of the 2005 total), involving either a derailment or collision, are, for the most part, minor, as they usually involve rolling stock travelling at slow speeds and generally pose less risk to the travelling public. In 2005, there were 103 fatalities, on par with the 101 fatalities in 2004 and an 11.7 per cent increase over the previous five-year average of 92.2. There were 77 serious injuries in 2005, a decrease over the 91 serious injuries reported in 2004.

For more details, including a provincial breakdown of accidents, fatalities and serious injuries, as reported to the Transportation Safety Board, and involving railways under federal jurisdiction, see tables A4-2 to A4-4 in the Addendum.

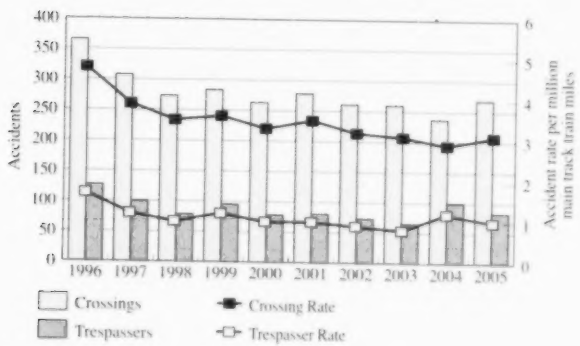
Direction 2006 Initiative — In 1996, Transport Canada and its partners, the Railway Association of Canada, provincial and municipal governments, railway companies and their unions, law enforcement agencies, and other safety organizations, joined forces to create Direction 2006. The goal of the program is to promote and implement initiatives that will change human behaviour at grade crossings and with respect to trespassing on railway property. Through eight key result areas — education, communications, enforcement, research,

resources, outreach, legislative, and performance measurement — the objective is to reduce railway grade crossing collisions and trespassing incidents by 50 per cent by 2006. High proportions of crossing and trespasser accidents are fatal or result in serious injury and they continue to account for approximately 90 per cent of total fatal and serious injury rail accidents.

In 2005, crossing accidents increased 14 per cent to 270, from 237 in 2004, and were above the five-year average of 257.8. Fatalities related to crossing accidents also increased, from 25 in 2004 to 38 in 2005. There were 82 trespasser accidents in 2005, a 17 per cent decline over the 2004 total of 99, although on par with the 2000 – 2004 five-year average of 79.2. Fatalities from trespasser accidents decreased to 63 in 2005 from 68 in 2004, but were up from the 54.6 for the previous five-year average. Figure 4-3 shows the trends in crossing and trespasser accidents from 1996 to 2005.

For more information on Direction 2006, visit www.tc.gc.ca/Railway/Dir2006_e.htm.

FIGURE 4-3: CROSSING AND TRESPASSER ACCIDENTS, 1996 – 2005



Source: Transport Canada, based on Transportation Safety Board data

Grade Crossing Improvement Program — Through the Grade Crossing Improvement Program, Transport Canada funds up to 80 per cent of safety enhancement costs at approximately 80 to 100 sites across the country. This represents an annual investment of up to $7.5 million. More than $100 million has been invested in this program over the past 15 years. In 2005, crossing accidents at public automated crossings increased from 117 in 2004 to 161 in 2005 and from 65 in 2004 to 73 in 2005 at public passive crossings. However, accidents at private crossings decreased from 51 in 2004 to 32 in 2005.

Safety Management Systems (SMS) — In 2005, Transport Canada continued to work with the railway industry to adopt a comprehensive systematic approach to railway safety through the conduct of Railway Safety Management System (RSMS) regulatory audits. The RSMS Regulations, which came into force on March 31, 2001, require all federally regulated railway companies to document, implement and maintain a RSMS with mandatory components as outlined in the regulations.

The department made significant progress in evaluating the implementation and effectiveness of the railway safety management systems of federally regulated railways. The initial audit cycle, comprising audits of all federally regulated railways, was 90 per cent completed by the end of 2005.

The audits showed that railways have made significant steps toward adopting more formalized approaches to managing safety. However, improvements are necessary to integrate the SMS approach within all operating levels of the railways. The department will continue to move toward a more focussed, issue-driven audit methodology, with a view to further enhancing industry safety culture.

ROAD SAFETY

Canada's road safety record continues to improve decade after decade. In 2004 (most recent statistics), there was a 3.6 per cent decrease in casualty collisions from 2003. There were 2,730 road-related fatalities in 2004, down from 2,766 in 2003, a 1.3 per cent decrease. In 2004, there was a 4.5 per cent decrease in road-related injuries, or 10,108 fewer injuries in 2004 than in 2003. Addendum Table A4-5 shows annual and longer-term trends in road-related casualty collisions that have resulted in fatalities and injuries.

The annual changes may be attributable in part to changes in vehicular traffic, such as the number of vehicle registrations, which were up 1.1 per cent in 2004 over 2003, and vehicle-kilometres travelled, which were down 2.3 per cent. The 2004 casualty collision rate of 48.5 per 100 million vehicle-kilometres travelled was a slight decrease over the 2003 rate of 50.2. The longer-term downward trend in fatalities and total injuries (621 fewer fatalities in 2004 than the 3,351 in 1995 and 29,588 fewer injuries in 2004 than in 1995) has helped reduce the estimated annual social cost to Canadians of up to $25 billion. These long-term trends are confirmed by a rate of 1.4 fatalities per 10,000 motor vehicle registrations in 2004 compared with 2.0 in 1995 (or with 2.4 for the 1985 – 1994 10-year average). Continuing the trend of decreased rates, the 2004 rates became the lowest for the past 10 years and since the 1950s. Data by provinces/territories are shown in Addendum Table A4-6.

Road Safety Vision 2010 (RSV 2010) — Introduced by the federal, provincial and territorial governments and the Canadian Council of Motor Transport Administrators, the strategic objectives of this initiative are to raise awareness of road safety issues, improve collaboration and cooperation among safety agencies, strengthen enforcement, and improve national road safety data collection and quality. Its national target is a 30 per cent decrease in the average number of road users killed or seriously injured during the 2008 – 2010 period over comparable 1996 – 2001 figures. In 2004, there were 8.0 per cent fewer fatalities and 3.9 per cent fewer serious injuries as compared with the 1996 – 2001 baseline of the RSV 2010. For more information on targets and sub-target areas, see *Road Safety Vision 2010, 2002 Annual Report* at www.tc.gc.ca/roadsafety/vision/menu.htm.

Seat belts — Increasing seat belt wearing rates among Canadians to 95 per cent or higher is a crucial RSV 2010 sub-target. Thousands of lives are saved every year by seat belts. In 2004, 36.0 per cent of driver and 35.3 per cent of passenger fatalities were victims who were not wearing seat belts. (See Addendum Table A4-7.) And the percentage for serious injuries among seat belt wearers was much lower (14.6 for drivers and 21.2 per cent for passengers). This indicates that there is a relatively higher risk of fatality for those not wearing seat belts in serious road crashes. For more details, see http://www.tc.gc.ca/roadsafety/tp/tp3322/2004/menu.htm. In September 2005, Transport Canada conducted an observational survey of seat belt use in urban communities during the daytime across Canada. In September 2004, a similar survey was conducted in rural communities. These surveys showed that the seat belt wearing rate in rural areas (86.9 per cent) was lower than the rate in urban communities (91.1 per cent). The rate was much lower among occupants of light trucks (about 85 per cent) than occupants of passenger cars (about 92 per cent), and the rate was lower by approximately two to six per cent for male drivers than for female drivers, and similarly, by age group, among those drivers aged 25 and under. For more information on these surveys visit: http://www.tc.gc.ca/roadsafety/stats/menu.htm, as well as Road Safety's main menu for related vehicle restraints and safety studies and programs (e.g., air bags, booster seats for children, child seats on school buses).

Impaired drivers — The percentage of fatally injured drivers who were tested and found with an alcohol concentration rate in their blood over the legal limit of 80 mg% has declined steadily from approximately 40 per cent in the late 1980s to approximately 30 per cent in recent years (32 per cent in 2003). A similar trend can be seen in police reported charges for impaired driving offences (for adults over 18 years of age). The number dropped from over 111,000 in the early 1990s to 62,977 in 2004 (most recent data). It is unclear what percentage of these reductions is a result of greater public awareness, tougher penalties or changes in traffic enforcement levels and/or procedures. Addendum Table A4-8 shows this downward trend. The observation of the role of drugs, such as cannabis, as a cause of collision dates back many years, however, much less is known about the impact of this drug on collisions. Studies revealing that cannabinoids are the drugs most commonly found (after alcohol) in drivers who have been injured or killed in motor vehicle collisions, have increased concern both nationally and internationally. Risks related to motor vehicle collisions increase in cases where both alcohol and cannabis are being used by drivers. For more information, please see "Impacts of cannabis on driving: An analysis of current evidence with an emphasis on Canadian data" at www.tc.gc.ca/roadsafety/tp/tp14179/menu.htm.

Addendum Table A4-10 shows that motor vehicle drivers accounted for about half of the 2004 fatalities (2,725), while passengers accounted for about a quarter (24.2 per cent). Pedestrian fatalities, accounting for 13.4 per cent, decreased from 379 fatalities in 2003 to 366 in 2004. A recent study indicates that pedestrian fatalities have decreased by 24.1 per cent over the 1992 – 2001 10-year period. The 10-year average for this period was 416. For details, visit www.tc.gc.ca/roadsafety/tp2436/rs200401/menu.htm.

As Addendum Table A4-11 shows, of the vehicles involved in fatal collisions between 2000 and 2004, after automobiles, pickup trucks and larger trucks, were motorcycles (at a distant fourth place, accounting for about five per cent), bicycles (in fifth place), and all buses (at sixth place with about one per cent of the total). For more statistics on road safety system performance, visit www.tc.gc.ca/roadsafety/stats/menu.htm.

Commercial vehicles — Another key RSV 2010 sub-target is to reduce the number of road users killed or seriously injured in crashes involving commercial vehicles (i.e., heavy trucks and buses). Commercial vehicle drivers accounted for approximately 3.5 per cent of total licensed drivers between 1999 and 2004 (for details, visit http://www.tc.gc.ca/roadsafety/tp/tp3322/2004/page12.htm). However, when compared with passenger vehicles, they generally account for a much higher proportion of vehicle-kilometres travelled. From 1999 to 2004, collisions involving commercial vehicles accounted for approximately eight per cent of all road collisions and roughly 20 per cent of all road fatalities. In 2004, there were 581 fatalities resulting from collisions involving commercial vehicles compared to 578 in 2003. This figure is identical to the 581 fatalities in 2002. (For details, see Addendum tables A4-9A and A4-9B).

Fatigue is recognized as a factor in transportation accidents. Consequently, a key initiative in recent years has been to revise and modernize the hours of service regulations (under the consensus-based National Safety Code Standard #9), allowing trucking companies to better manage the fatigue factor in their operations. In December 2004, government regulators and key players in the Canadian trucking and bus industries reached a consensus on safety rules for extra-provincial commercial vehicle operations. The Commercial Vehicle Drivers Hours of Service Regulations, which were published in the *Canada Gazette* Part II on November 16, 2005, will come into effect on January 1, 2007. The regulations are available at: http://canadagazette.gc.ca/partII/index-e.html. Transport Canada has an ongoing research program on human performance and fatigue management. In 2004, a prototype fatigue management program for commercial drivers was developed to train drivers, dispatchers and company managers about ways to avoid fatigue and to get the best possible rest at home or on the road. The program will undergo field trials in 2006 under a 2003 joint research agreement between Transport Canada and Canadian provincial and U.S. authorities. For information on human performance research, see http://tcinfo/tdc/projects/hfactors/menu.htm.

Transport Canada also implemented legislative and regulatory changes on January 1, 2006, that establish a common approach to monitoring and measuring truck and bus safety performance across Canada. The new safety rating system, which is enforced by the provinces and territories, addresses driver, vehicle and motor carrier performance, including maintenance practices and the collision record. More information can be found on the Transport Canada Web site at: www.tc.gc.ca.

Transport Canada also instituted a "Share the Road" Web site in December 2005 to assist the public in sharing the road with commercial vehicles, see http://www.tc.gc.ca/roadsafety/ShareTheRoad/menu.htm. The Web site provides important safety tips for both commercial and non-commercial vehicle drivers.

Marine Safety

In 2005, there were 405 marine accidents involving Canadian-registered vessels. This was a record low and represented an eight per cent decrease from the 2004 total of 441 and was nine per cent lower than the previous five-year average.

Marine accident statistics contain two components, shipping accidents and accidents aboard ships. Historically, the majority of marine accidents are shipping accidents and 2005 was no exception, with 365 shipping accidents or 90 per cent of the total. However, this was a decrease of eight per cent over 2004 and nine per cent over the previous five-year average. In 2005, there were 12 fatalities from shipping accidents, down from 21 in 2004 and below the five-year average of 15.4. There were also 21 injuries resulting from these accidents. This total was well below both the 2004 figure when there were 37 injuries and the five-year average of 30.8. There were 22 vessels confirmed lost due to a shipping accident in 2005, down 36 per cent from the previous five-year average of 34.4. Of the 403 Canadian vessels involved in a shipping accident, which includes those where more than one vessel was involved (e.g., collision between vessels), fishing vessels represented the largest proportion with 55 per cent, while commercial vessels followed with 34 per cent.

Accidents aboard ship made up the remainder of the Canadian vessel accidents, falling to 40 in 2005 from 46 in 2004 and from the five-year average of 47.2. There were six fatalities that resulted from these accidents, equivalent to the 2004 total but down from the five-year average of 9.6. The 37 injuries resulting from the accidents were also below the five-year average of 42.6.

For more details on marine accidents, including a provincial breakdown of occurrences, which take into account foreign vessels inside Canadian waters (not included in the above figures but reported to the Transportation Safety Board), see Addendum tables A4-12 and A4-13.

There are approximately 27,593 registered and 9,824 licensed vessels in Canada (excluding recreational) for a total of 37,417. The majority of these vessels, 61 per cent, are fishing vessels. Of the 14,438 commercial vessels, 71 per cent measure less than 15 gross tons. For details on registered vessels, see: http://www.tc.gc.ca/ShipRegistry/menu.asp?lang=e.

One of the key commitments in Marine Safety's Strategic Plan 2003 – 2010 is to achieve certain safety targets by 2010, based on the 1998 – 2002 five-year averages for Canadian and foreign vessels. These safety targets are focussed on the number of fatalities (a 20 per cent reduction to 33.8), injuries (a 30 per cent reduction to 80.2), and the Canadian- and foreign-flag commercial accident rates (a 20 per cent reduction to 3.8 and 2.0, respectively). Early progress against the safety goals shows that the fatality reduction target was met 100 per cent in 2005, while the injury target reached 96 per cent of the goal. For more information on the plan and safety targets, visit www.tc.gc.ca/MarineSafety/tp/tp13111/menu.htm.

Small commercial vessels — In 2005, there were 47 small vessels involved in shipping accidents (excluding fishing), making up 12 per cent of the national total for all vessels. Of these, 20 were engaged in passenger/charter activities. For more details, see Addendum Table A4-14. Canadian small vessels engaged in commercial fishing activities accounted for 54 per cent of total vessels involved in shipping accidents in 2005. Over the years, these vessels have consistently accounted for the highest proportion of the total vessels involved in shipping accidents. However, as shown in Addendum Table A4-15, accidents involving these vessels have declined considerably in the last decade. In 2005, the small vessel regulations were amended to incorporate construction standards and stability requirements for all new vessels in this class. In addition, a decal program was rolled out across the country to graphically indicate the small passenger vessels participating in the inspection program. In addition, the Canadian Marine Advisory Council (CMAC) Standing Committee on Fishing Vessel Safety, with government and industry representation, continued to address regulatory issues and operator certification and training.

International — As a member of the International Maritime Organization (IMO), Canada is required to report casualties for large commercial vessels. In 2005, there were no "very serious" casualties involving a Canadian vessel. There was one "serious" grounding casualty, and two "less serious" casualties (a collision and a grounding) for Canadian vessels. Foreign-flag vessel involvement in marine accidents in Canadian waters rose to 80 in 2005 from 58 in 2004, but remained comparable to the five-year average (77.6). In 2005, casualties resulting from accidents on foreign-flag vessels included one fatality and four injuries. Canada is a signatory to two Memoranda of Understanding (MOU) on Port State Control. In 2005, Canada continued to meet its obligations under the MOUs, inspecting 1,277 foreign-flag vessels. Improved targeting and special inspection programs for bulk carriers and tankers have helped improve the safety of foreign ships entering Canadian ports, and trends show that detentions have decreased from five years ago. Marine Safety publishes an annual report on the Port State Control Program that provides comprehensive data on inspections. Further details on the annual reports can be found at http://www.tc.gc.ca/MarineSafety/Ships-and-operations-standards/Inspection/Port-State-Control/Annual-Reports/Menu.htm.

Marine Transportation Safety Management Systems — These systems have been in place since 1998 when they were implemented on a worldwide basis for tankers, bulk carriers and passenger ships in international trade. In 2002, these requirements were extended to almost all vessels trading internationally and are implemented through the Safety Management Regulations. To date, close to 60 Canadian vessels have obtained the required statutory certification issued by classification societies on behalf of Transport Canada. Through a well established monitoring program, Transport Canada directly monitored eight of the audits carried out by these authorized organizations and reviewed 20 additional audit reports in 2005. Transport Canada continues to support the voluntary adoption of Safety Management Systems by vessels operating in Canadian waters and is reviewing the feasibility of implementing a Safety Management System for operators of Canadian domestic vessels (including small passenger vessels).

Recreational boating safety — Preliminary figures for 2005, indicate there were approximately 145 recreational vessel fatalities. This is below the five-year average of 170. Discussions were initiated with Service Canada to modernize the recreational vessel licence system. Starting in 2006, recreational vessel licences will be issued from over 300 Service Canada centres across the country and the data recorded in an electronic database that will be accessible to rescue organizations. It should be noted that there are approximately eight million recreational boaters in any given year. The Red Cross and the Coast Guard Search and Rescue Group maintain comprehensive information on accidents and fatalities relating to pleasure craft at www.redcross.ca and www.ccg-gcc.gc.ca/sar/main. Further details on the above initiatives and other safety regimes under the Marine Safety Program can be found at http://www.tc.gc.ca/marinesafety/menu.htm.

Aviation Safety

Preliminary figures for 2005 show that Canadian-registered aircraft were involved in 245 accidents, slightly more than the 241 accidents in 2004. However, this number is still well below the previous five-year average of 277.4. The decline is largely attributable to a reduction of flight training accidents.

The number of aircraft operating commercially involved in accidents (107 in 2005) accounted for 43.7 per cent of the total Canadian-registered aircraft accidents, while private/recreational aviation accounted for 138 aircraft involved in accidents. Historically, airlines and commuter

aircraft account for a small portion of these accidents. In 2005, one Canadian-registered airliner was involved in an accident and it did not result in fatalities. There were five commuter operations accidents, which was below the 2000 – 2004 five-year average of 6.8. One fatal accident involving commuter operations occurred in 2005 and resulted in two fatalities. Approximately half (51.4 per cent) of the commercial aviation operations accidents in 2005 involved air taxis. This was consistent with the previous five years. At 55 accidents, the 2005 figure was on par with the 56 accidents in 2004 and the previous five-year average of 53.8. In 2005, of the 55 accidents involving aircraft of this category, seven (12.7 per cent) were fatal accidents, causing 10 fatalities. There was a major increase in aerial work accidents from 17 accidents in 2004 to 31 in 2005, which accounted for 28.9 per cent of all 2005 commercial aviation operations accidents. However, the 2005 figure was on par with the previous five-year average of 35.8. Six of the aerial work accidents were fatal accidents and caused 11 fatalities.

Recreational aviation is by far the largest contributor to the number of Canadian-registered aircraft accidents, accounting for 56.3 per cent of the 2005 total and 52.6 per cent for the 2000 – 2004 five-year average. In 2005, 138 recreational aircraft (excluding 31 basic and advanced ultra-lights) were involved in accidents, in line with the 2004 figure of 140. Of the 2005 total, 122 (88.4 per cent) involved aeroplanes and 11 of these (nine per cent) were fatal, a slight decrease over the 2000 – 2004 five-year average (13 fatalities, 128.6 aeroplanes involved).

The number of reportable incidents reported to the Transportation Safety Board involving either a Canadian- or foreign-registered aircraft decreased in 2005 to 822 from 906 in 2004, and remained slightly below the 2000 – 2004 average of 836.6. At 27.3 per cent, Declared Emergencies accounted for the highest percentage among the categories of incidents. The 2005 figure (224) was considerably lower than 2004 (276) and the previous five-year average (258.7). For more details on aviation incidents, please see Addendum Table A4-17.

The source of the data is Transport Canada's Flight 2005 database, data that is extracted from the Transportation Safety Board of Canada (TSB) database and then aligned with the Canadian Aviation Regulations (CARs) and toward the Flight 2005 safety targets. Addendum Table A4-16 provides more details on these occurrences and A4-17 further summarizes occurrences as they were reported to the TSB. Addendum Table A4-18 provides more detail on accident rates, and Addendum Table A4-19 provides a breakdown by province of aviation accidents, fatal accidents and fatalities.

Civil Aviation continues a strong partnership approach with the aviation community and the Canadian public that contributes to the achievement of the safety targets identified in *Flight 2005 — A Civil Aviation Safety Framework for Canada*. Preliminary information shows the 2005 accident rate as 6.4 per cent compared with 6.3 per cent in 2004, below the five-year average of 7.2 per cent. On the public confidence side, the March 2005 edition of the Perception of Air Travel & Security survey yielded an overall confidence rating of 98 per cent, which is consistent with the 2002 and 2004 findings. Over two thirds of Canadians — or 70 per cent — feel highly confident in flight safety in Canada, up three percentage points over 2004 and 10 percentage points from 2002.

Flight 2005 represents a new way to manage safety risks in civil aviation and introduced the concept of safety management systems (SMS). At the most fundamental level, the aim is to improve safety through proactive management rather than reactive compliance with regulatory requirements. The requirement for an SMS is overarching and is in addition to the current regulatory framework. It will permit industry to meet the safety performance requirements in the most efficient and effective manner. Holders of Transport Canada operation certificates will be required to implement an SMS. The implementation date for various parts of the *Canadian Aviation Regulations* will vary based on the progress of the Notice of Proposed Amendments through the regulatory system. The expected result of this initiative is the improvement of safety practices and fostering stronger safety cultures within the civil aviation industry. For more information on Flight 2005, visit http://www.tc.gc.ca/civilaviation/menu.htm

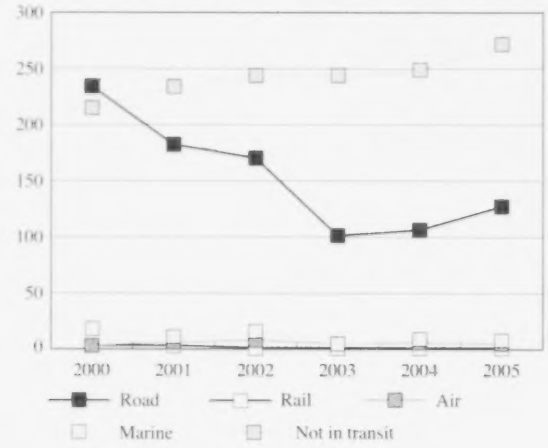
Canada's aviation industry has made tremendous progress in reducing accidents and gaining public trust. To continue this improvement, the industry and its stakeholders are working together on new and innovative approaches. Smart regulations, imbedded safety cultures and effective safety management systems are the way of the future — a future where industry operates at the maximum level of delegation possible with the flexibility to meet safety requirements in the most cost-efficient manner. This means that the regulatory framework must be increasingly performance-based to permit the implementation of systematic approaches to provide continuous improvement in safety performance.

Flight 2010 articulates civil aviation's direction for 2006 to 2010 and outlines goals and objectives in the context of future challenges. The plan describes how the program will achieve the department's two key results, which are unchanged from Flight 2005.

TRANSPORTATION OF DANGEROUS GOODS

There were 412 reportable accidents involving the transportation of dangerous goods in 2005 up from 370 in 2004. However, few accidents involving dangerous goods are actually caused by the goods themselves. Figure 4-4 shows that in recent years most reportable accidents involving dangerous goods did not occur during transport, but rather during the loading or unloading phase at transportation facilities. The majority of deaths and injuries involving the transportation of dangerous goods were caused by the accident (a collision) itself, not the dangerous goods. In 2005, seven fatalities and 41 injuries resulted from accidents involving dangerous goods. Of these, six injuries and no fatalities resulted from the dangerous goods themselves.

FIGURE 4-4: TDG REPORTABLE ACCIDENTS BY MODE AND AT TRANSPORTATION FACILITIES, 2000 – 2005



Source: Transport Canada, Dangerous Goods Accident Information System

Every year in Canada, there are approximately 30 million shipments of dangerous goods that are subject to the TDG Regulations. Almost all (99.99 per cent) arrive safely at their destinations. As Figure 4-4 shows, among the four modes of transport, most reportable accidents (91 per cent) occur on road. It is important to note, however, that 93 per cent of dangerous goods are shipped using road transportation. When tonnage is used as the unit of measurement of dangerous goods transported in Canada, more than 46 per cent of the volume is transported by road while 39 per cent is transported by rail. The TDG program does not cover dangerous goods transported in bulk on ships or by pipeline. For more information on TDG exposure data contact provencherm@tc.gc.ca. For details on the number of reportable accidents by mode of transport and those accidents resulting in fatalities and injuries, see Addendum tables A4-20A to A4-20C.

Review of the TDG Act — In 2005, an analysis of the issues, alternatives and solutions was concluded. Amendments to the Act are expected to be proposed in the fall of 2006.

Tank car thermal protection integrity — As the final chapter in the Tank Car Thermal Protection Integrity project, Transport Canada, along with the U.S. Department of Transportation (Federal Railroad Administration) and railway and tank car industries, agreed to undertake full-size tank car fire tests. The performance of rail tank cars filled with propane in a fully engulfing fire will result in a realistic set of defect assessment criteria for use by Transport Canada inspectors.

Highway tank trailer vent and burn — Transport Canada undertook a vent and burn procedure on a highway tank containing propane. For further information on the vent and burn project refer to the article in the Transport Dangerous Goods Newsletter, Winter 2005-2006 edition, at: www.tc.gc.ca/tdg/newsletter/menu.htm.

The National TDG Program — The program includes the development of standards and regulations, inspection and enforcement policies, tools for emergency response support and the manufacture, use and testing of standardized means of containment to promote public safety in the transportation of dangerous goods in Canada. In 2005, Transport Canada offered training sessions throughout the country on the TDG Regulations to federal, provincial and territorial inspectors. Transport Canada also approved facilities that manufacture or maintain means of containment as required in the standards. New means of containment standards for transportable gas cylinders and tank trucks and portable tanks were adopted in the TDG Regulations. When compliance with the *Transportation of Dangerous Goods Act* may be difficult (e.g., the introduction of new technologies) the Act provides the option to apply for a "Permit for Equivalent Level of Safety." Applicants must demonstrate that their proposed activity, although not in compliance with the prescribed requirements, will be conducted in a manner that will provide a level of safety at least equivalent to the prescribed requirements. In 2005, Transport Canada received 1,892 applications and rendered 1,749 decisions.

International harmonization — Transport Canada's goal to harmonize the regulatory requirements across jurisdictions remains an important objective. In 2005, TDG led the United Nations Sub-committee of Experts on the Transportation of Dangerous Goods (UNSCETDG) in reviewing testing requirements for intermediate bulk containers (IBCs) which resulted in the adoption of some revisions to the Model Regulations that will enhance

safety by tightening or, where necessary, clarifying the requirements for testing IBCs. These revisions will be adopted by IMO and possibly by ICAO and other international regulatory bodies and by national authorities thus enhancing international and domestic harmonization of requirements. This initiative is also a Smart Regulations initiative. Amendment 4 to the TDG Regulations adopted requirements that harmonized the regulations with international recommendations, modal requirements and U.S. requirements. Amendment 6, which proposes to further harmonize the TDG Regulations, was distributed for informal comment.

Emergency Response Guidebook — The Canadian Transport Emergency Centre (CANUTEC) assists personnel in handling dangerous goods emergencies 24 hours a day, seven days a week. The Emergency Response Guidebook 2004 that was distributed to fire departments, police departments and ambulance services is available as a free downloadable database in three languages. For more information visit www.CANUTEC.gc.ca.

TRANSPORTATION SECURITY

In 2005, Transport Canada continued to strengthen Canada's transportation security regime, in collaboration with other federal government departments, other countries and international organizations, labour organizations, industry and other stakeholders.

Transport Canada continued to work toward the objectives set out in the federal government's National Security Policy, of which transportation security is a key component. In 2005, Transport Canada launched the development of a transportation security strategy. This strategy will take stock of recent developments and accomplishments in transportation security and identify future priorities across all modes of transportation by assessing the current and future threat and risk environment. Over the past year, Transport Canada has worked closely with a wide number of partners on this initiative, including other federal departments and agencies, provinces and territories, the transportation industry, labour groups, international partners and academia.

In 2005, the Security and Prosperity Partnership of North America (SPP) was signed by the leaders of Canada, the U.S. and Mexico. This trilateral agreement establishes a common approach to protect North America from external threats, prevent and respond to threats within North America, and further streamline the secure and efficient movement of legitimate, low-risk traffic across shared borders. Transportation security is a key part of the Security and Prosperity Partnership, and the department is leading and participating in a number of initiatives to meet the objectives of the SPP.

Aviation Security

Perceptions of Air Travel Security

The public's confidence in aviation security continued to rise in 2005 (see Table 4-2). Canadians are confident in the security of air travel, and since 2002, this confidence has grown. Canadians believe that there are sufficient security procedures in place to protect them. Even if they do not feel immune to the activities of terrorists, they do, nevertheless, feel confident in the effectiveness of those security measures that have been implemented.

TABLE 4-2: PUBLIC PERCEPTIONS OF AVIATION SECURITY

- In 2005, one half (49 per cent) of respondents reported having high confidence in the security of air travel, compared with only slightly more than one third (36 per cent) in 2002. This represents an increase in confidence of 13 percentage points over the last three years.
- Three quarters (76 per cent) of Canadians agreed with the statement "Even if I can't see them, I am confident there are sufficient security procedures in place to protect air travellers." This represents a 10-point gain since March 2004.
- A clear majority of Canadians (62 per cent) believe that the Canadian authorities are well informed about potential threats to air security.
- More than 90 per cent of Canadians rate both passenger and luggage screening as either *effective or moderately effective*.
- The proportion of respondents finding the screening procedures at airports *very thorough* continued to rise from 34 per cent in 2002 to 51 per cent in 2005.
- Two thirds of respondents (66 per cent) expressed *high satisfaction* in terms of their overall sense of security at the airport.
- Generally speaking, half of Canadians (51 per cent) are willing to endure a lengthy wait (15 minutes or more) and a plurality is still willing to wait "as long as it takes."

Source: Perceptions of Air Travel Safety and Security in Canada, Wave IV, EKOS Research Associates (April 29, 2005).

Aviation Security Initiatives

In 2005, Transport Canada continued to implement a number of aviation security initiatives, in collaboration with other federal government departments, other countries and international organizations, industry stakeholders and labour organizations.

Key aviation security initiatives in 2005 include:

- legislative and regulatory and enhancements;
- programs such the Aviation Transportation Security Clearance Program; and
- international initiatives.

In addition to these activities, the Minister of Transport announced the appointment of an advisory panel review of the *Canadian Air Transport Security Authority (CATSA) Act*. The Act came into force on April 1, 2002. It requires that the Minister of Transport complete a review of the provisions and operation of the legislation during its fifth year and report to Parliament on the results. This expert panel will consult with stakeholders across the country in order to identify possible changes and enhancements to the *Canadian Air Transport Security Authority Act*.

Legislative and Regulatory Enhancements

To augment the rigorous security standards already in place, Transport Canada amended and introduced security regulations in 2005.

Aviation Transportation Security Clearance Program

To reduce the risk of unauthorized persons entering restricted areas of an airport, in 2005, Transport Canada continued to implement the Aviation Transportation Security Clearance Program. Using the Transport Canada Automated Fingerprint Identification System (TCAFIS), the program modernizes and speeds up processing times for aviation transportation security clearances, making airport security more effective and efficient.

In 2005, Transport Canada processed about 40,000 applications for security clearances.

International Initiatives

In 2005, Transport Canada continued to work with such international agencies as the G8, the International Civil Aviation Organization (ICAO), the European Civil Aviation Conference (ECAC), the U.S. Department of Homeland Security and the U.S. Department of Transportation.

Key international initiatives included:

- The Secure and Facilitated Travel Initiative (SAFTI). Canada and other G8 members evaluated vulnerability assessment methodologies to ensure the safe and efficient movement of passengers and cargo, which would benefit international commerce while enhancing security.
- The ICAO's Universal Security Audit Programme (USAP). Transport Canada co-chaired this initiative and because of its recognized expertise, has trained inspectors worldwide to work on inspection teams.
- The ICAO Aviation Security Awareness Training Programme. Transport Canada continued to support this Programme by training civil aviation security officials in the Latin America and the Caribbean regions, and by sharing its expertise on aviation security activities.
- Active participation in, and cooperation with, other international fora such as:
  - the Transportation Security Cooperation Group (TSCG), co-chaired by Transport Canada in 2005. The TSCG brings together Canada and the U.S. to discuss issues of common interest related to transportation security; and
  - the North American Aviation Trilateral (NAAT), a forum enabling Canada, the U.S. and Mexico to discuss aviation security concerns.

Both TSCG and NAAT also enabled Canada to make progress toward harmonizing aviation security policies and regulations across the three countries.

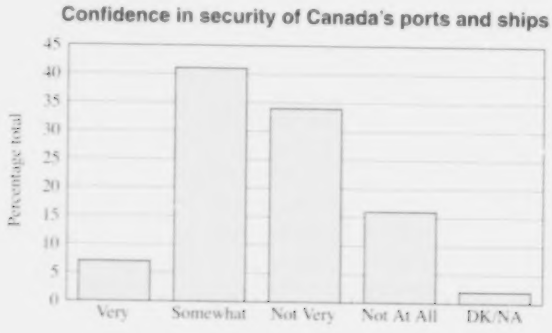
In addition, Transport Canada worked jointly with the U.S. departments of Homeland Security and Transportation to manage aviation security issues and align regulatory requirements and on the Counter-Terrorism Bilateral Agreement.

Marine Security

The Government of Canada continues to put marine security at the forefront of security enhancements. As a result, Canadians are becoming increasingly more aware of the various enhancements to marine security. An Environics survey reveals that nearly half of those Canadians who were polled say they are confident with the level of security (with seven per cent saying they are very confident). Close to half of all Canadians recall hearing or seeing something in the past year relating to new federal government measures taken to improve the security of Canada's ports and ships. Those who recall hearing about such measures express a noticeably higher degree of confidence in the security of Canada's ports and ships. In general, despite being a relatively new program, Canadians have expressed confidence in the level of Canada's marine security. Figure 4-5 shows the public's perception of the security of Canada's ports and ships.

In 2005, Transport Canada continued to develop the national marine security regime through regulatory enhancements, inspection and enforcement, the Marine Security Contribution Program, and the work of the Interdepartmental Marine Security Working Group.

FIGURE 4-5: PUBLIC PERCEPTION OF MARINE SECURITY



Source: Environics Research Group

LEGISLATIVE AND REGULATORY ENHANCEMENTS

- Work continued on the development of the proposed Marine Transportation Security Clearance Program. In addition to attending several meetings across Canada with stakeholders, Transport Canada provided stakeholders with the latest draft of the proposed regulations and a package containing background information and further details on the proposed program.
- A working group was established and met during the November 2005 meeting of the Canadian Marine Advisory Council to examine the possibility of introducing new security requirements for domestic ferries.
- Transport Canada continues its work on an information guide for industry that will address security requirements for tall ships and all other special events.
- Work continued on the development of the potential use of Administrative Monetary Penalties, which involves the use of monetary penalties for contraventions of federal legislation. This form of enforcement action is typically more expedient and economical than criminal proceedings.
- Other activities included the administrative set-up in support of IMO regulatory requirements and the training and the provision of regulatory guidance/interpretation of the Marine Transportation Security Regulations (MTSRs) for both internal and external stakeholders.

INSPECTION AND ENFORCEMENT

Transport Canada has been active across the country carrying out various activities, including standard-setting, inspection and compliance, and completed awareness, education and support activities. During fiscal year 2004/05, Transport Canada made significant progress in the following areas:

- continued assessments of ports, facilities and vessels against regulatory requirements;
- worked with the Department of National Defence in establishing coastal Marine Security Operations Centres (MSOC) both in Halifax and Victoria to detect, assess, prevent and respond to a direct or indirect marine security threat;
- continued the development of training programs and tools to ensure that inspection/enforcement programs are consistent across Canada;
- maintained liaison with the U.S. Coast Guard, including the implementation of joint vessel inspections for foreign-flagged ships and reciprocal port visits to build on best practices;
- maintained liaison with Canadian and international stakeholders and industry;
- conducted and developed various industry awareness presentations and publications to ensure constant flow of information and awareness activities aimed at target audiences to keep them regularly informed of marine security developments and accomplishments.

MARINE SECURITY CONTRIBUTION PROGRAM

Enhancements to Canada's ports and marine facilities will continue under the $115 million Marine Security Contribution Program, which is a three-year program to be carried out from 2004 to 2007. In 2005, more than $50 million in funding was approved by the Marine Security Contribution Program for more than 600 security enhancement projects. Over the next two remaining years, the Program will continue to fund projects for security enhancements such as the purchase of surveillance equipment (including cameras and closed-circuit TV systems); improvements to dockside and perimeter security and access control, such as fencing, gate signage and lighting; and other port security enhancements.

Interdepartmental Marine Security Working Group (IMSWG)

Transport Canada leads the Interdepartmental Marine Security Working Group (IMSWG), which coordinates marine security efforts on behalf of the Government of Canada. Its composition includes other government departments participating in marine security enhancements. In 2005, the IMSWG ensured effective delivery of marine security initiatives; provided strategic advice on marine security gaps; facilitated cooperation and coordination among member departments and agencies; developed national marine security policy recommendations; and facilitated communication with federal departments and agencies and other key stakeholders. Transport Canada also administers the Marine Security Coordination Fund, which is a program to provide funding for one-time or short term projects that will enhance collaboration between departments in addressing marine security issues and enhancements. During 2005, Transport Canada administered funding for various projects approved under the fund to other departments including the Department of National Defence, Canada Border Services Agency and Fisheries and Oceans Canada.

Canada is represented by Transport Canada at many major international organizations, such as the International Maritime Organization, the G8, the Asia-Pacific Economic Cooperation and the Association of Southeast Asian Nations. All have identified the security of the global marine transportation system as a high priority. Transport Canada participated with partner nations in numerous conferences and meetings on a range of global marine security initiatives and issues and contributed to international marine security capacity building by delivering workshops in other countries.

Surface Security

Rail and Mass Transit Security

Following the 2004 attacks on the rail system in Madrid, Transport Canada extended its rail intelligence-sharing network to major transit systems across Canada, including bus and subway systems. Members from coast to coast include railways, urban transit authorities — including those operating subway and bus systems — and bus lines.

Immediately following the attacks in London on July 7, and 21, 2005, Transport Canada activated this network to alert transit and rail operators across the country, and to encourage them to exercise increased vigilance. The network proved to be a very effective tool for quickly heightening awareness and for transit operators to share information about their responses. Transport Canada will continue to work with rail and transit authorities to develop further enhancements to security in these areas, based on threat and risk analysis.

As a result of extensive consultations with the rail and transit operators, the provinces, and the Railway Association of Canada, the Minister announced an immediate action plan designed to address security priorities and to enhance security for passenger rail, public transit and ferry operations through complementary components, including:

- creating a new passenger rail and public transit security contribution program, called RideSecure, focussed on commuter rail, subway and major transit systems;
- enhancing Transport Canada's ability to provide security expertise and specialized technology assessments and to coordinate the development and sharing of best practices with its partners in rail and public transit security;
- conducting mass transit emergency preparedness exercises to be led by Public Safety and Emergency Preparedness Canada in collaboration with key jurisdictions and stakeholders; and
- creating a new Mass Transit Task Force on intelligence, policing and response.

Intermodal Cargo Security

The security of the freight supply chain, that is, containerized cargo, moving internationally is becoming a major transportation security issue. This is expected to continue, and Canada needs to play an appropriate role in ensuring the security of this aspect of the national transportation system. In 2005, Transport Canada, along with Public Safety and Emergency Preparedness Canada, the Canadian Border Services Agency, the provinces of Quebec and Nova Scotia, and the states of New Hampshire, Vermont, Maine and New York continued to collaborate on the Canada–U.S. Cargo Security Project. This project will evaluate technology used to track the movement of cargo containers transiting in the supply chain and detect any security breaches as they move through the transportation system.

Critical Infrastructure Assurance and Emergency Preparedness

National Critical Infrastructure Assurance Program (NCIAP)

In Canada a network of physical and computer-based infrastructures — collectively referred to as National Critical Infrastructure — provide essential energy, transportation and communications, as well as safety, financial, health and emergency response services. These infrastructures are essential to the health, safety, security and economic well-being of Canadians and to the effective functioning of governments. Under the National Critical Infrastructure Assurance Program, Transport Canada and 11 other federal government departments strive to:

- achieve an effective national emergency management system;
- enhance protection and survivability of critical infrastructure; and
- reduce loss of life and property resulting from major disasters, accidents or intentional acts.

Transport Canada's role is to help protect Canada's key transportation facilities, services, assets and information. In 2005, Transport Canada continued to work with a number of federal government departments, the provinces, territories and other stakeholders to develop a National Critical Infrastructure Protection (CIP) Strategy. Transport Canada also continued to work cooperatively with the U.S. on critical infrastructure protection and emergency management issues, including co-chairing the Canada-U.S. CIP Steering Committee.

Emergency Preparedness Activities

Transport Canada participated in the following:

- the Canadian part of the exercise TRIPLE PLAY / TOPOFF 3 / ATLANTIC BLUE, a major Canada/U.S./U.K. counter-terrorism exercise which assessed Canada's ability to act quickly, decisively and effectively in concert with international partners in the event of a terrorist attack or other emergency;
- the "International Radiological Nuclear Exercise 3 (INEX-3)," a major exercise to test Canada's Federal Nuclear Emergency Plan (FNEP), the aim of which was to test the Canadian late phase and recovery response plans in the event of a national level radiological contamination;
- exercise Atlantic Guard III, the aim of which was to enhance the collective ability of various government departments and agencies to react to security related threats within Atlantic Canada;
- eight meetings of NATO's Transportation Plenary Boards, Committees and their working groups in accordance with the department's responsibilities under Canada's International NATO Policy.

Chemical, Biological, Radiological, and Nuclear (CBRN) Response Project

The goal of the Chemical, Biological, Radiological and Nuclear (CBRN) Response Project is to secure access to trained industrial emergency response teams who, when requested by authorities, are capable of helping first responders handle dangerous goods used as CBRN agents in terrorism situations in Canada. Transport Canada began implementing this project for the transportation of dangerous goods in 2002.

These response teams, developed over the years under the *Transportation of Dangerous Goods Act* Emergency Response Assistance Plan requirements, routinely provide assistance to first responders in handling dangerous goods involved in transportation accidents. They are appropriately trained and equipped for conventional dangerous goods but will require additional training for non-conventional CBRN agents.

In 2005, Transport Canada continued to work with other federal government departments and the provinces in order to share information and best practices, and increase capabilities to respond in the event of an incident. The department established a database of industrial emergency responders, their capabilities relating to specific products, and geographical areas of response. Potential industrial responders have been provided with additional awareness training, and many have expressed interest in the project. At this time, there are approximately 30 organizations participating in the CBRN Response Program on a voluntary basis.

TRANSPORTATION AND THE ENVIRONMENT 5

Levels of greenhouse gas emissions from freight transportation have increased; however, emissions grew more slowly than overall activity.

Overview

The relationship between transportation and the environment is multi-faceted. It concerns the direct and indirect environmental effects of transportation activity — the actual movement of goods and people — and the transportation system. That system includes the construction and operation of the infrastructure and the vehicles, ships or aircraft involved. The major current sources of air pollution from transportation are carbon monoxide, carbon dioxide, oxides of nitrogen and volatile organic compounds: the causes of urban smog and climate change. The major sources of transportation-related water pollution are spills of oily wastes and releases of invasive species in ballast water. Significant degradation of land occurs because of spills and discharges from transportation facilities and mobile equipment.

This is a difficult problem in a country like Canada. The demand for transportation is a derived demand, as it is determined by the need for moving people and goods. As the size of the population, the economy and trade grow, so too does the demand for transportation. The demand for transportation fuels, and consequently the level of emissions, is a function of current transportation infrastructure, vehicles, geography (long distances and urban settlement patterns) and weather, as well as the cost of fuels themselves. The challenge is to find a way to de-link the growth in population, economic activity, and transportation demand on the one hand from fuel consumption and emissions growth on the other.

Reducing pollution from transportation presents a complex set of policy choices. Much effort has focussed on improving the technology that is embedded in vehicles and transportation systems, changing the content of fuels, or developing alternative fuels. A wide range of regulations are in place governing fuel quality, combustion, and operating practices. Increasing efforts are being made to change the design of transportation systems, to influence transportation behaviour, and to reduce transportation fuel demand.

Governance presents another challenge. The environment is not defined by the constitution, federal and provincial governments have a shared jurisdiction in this matter and municipal governments have an important role to play. Within the federal government, several departments have responsibility for transportation and the environment, particularly Transport Canada, Environment Canada, and Natural Resources Canada.

Environmental Trends in Transportation

This section will show how the most recent trends in both greenhouse gas (GHG) and criteria air contaminants (CAC) emissions relate to transportation. It will also illustrate that despite continued growth in transportation services, important strides have been made to improve emission levels in some areas while several challenges remain in others.

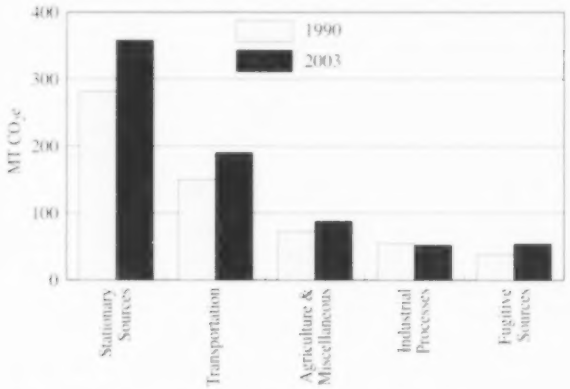
Climate Change and Greenhouse Gas Emissions

Climate change is caused by increases in GHG emissions, which may significantly alter weather and climate patterns around the world, thus increasing the frequency of severe weather events and enhancing the risk of weather-related disasters. Transportation and other sectors of the Canadian economy are still faced with the enormous challenge of climate change. These changes are already having an impact on the Canadian transportation system, especially in the North.

The total GHG emissions in Canada in 2003 were 740 megatonnes (Mt), a 2.9 per cent increase from 2002, and 144 Mt higher than in 1990. Figure 5-1 shows that the transportation component of total emissions was 190 Mt in 2003, or 25.7 per cent of the total. This is up from the 2002 level of 180 Mt (25.0 per cent of total emissions). However, since 1990, transportation's share of total emissions has remained fairly stable at around 24 to 26 per cent of the total.

On-road emissions accounted for 74 per cent of total transportation emissions, domestic air-related emissions accounted for four per cent, and rail and domestic marine both accounted for three per cent. The remaining transportation-related emissions, off-road and pipelines, accounted for a combined 16 per cent of total GHG emissions in 2003.

FIGURE 5-1: TOTAL GHG EMISSIONS BY SECTOR, 1990 AND 2003

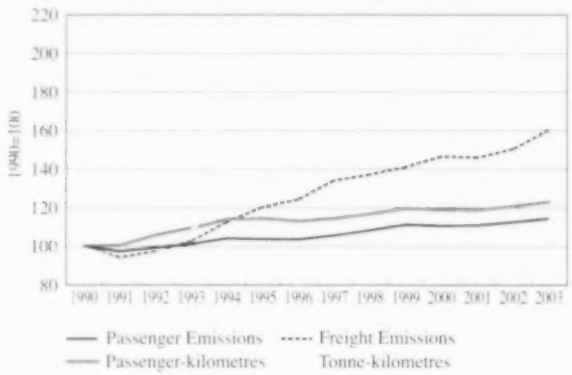


Source: Canada's Greenhouse Gas Inventory, 1990-2003, Environment Canada

Figure 5-2 shows the trends from 1990 to 2003 in on-road GHG emissions and activity levels from the passenger and freight sectors (1990 levels indexed to 100). Emissions from on-road passenger travel increased by roughly 14 per cent over this period, from 69 to 78 Mt. Passenger-kilometres (a common measure of activity) increased by 23 per cent throughout this period, indicating a small improvement in the GHG intensity of on-road passenger vehicles transportation.

Figure 5-2 also shows that GHG emission levels for on-road freight increased by 60 per cent, from 34 to 54 Mt, from 1990 to 2003. While this is more than double the increase in passenger GHG emissions, it should be viewed in the context of a rise of 120 per cent in freight activity levels measured in tonne-kilometres. This indicates that while freight is accounting for increasing levels of GHGs compared with passenger travel, it is also becoming more efficient by decoupling GHG emissions from activity. This has been achieved in a number of ways, including the adoption of better operating practices and the use of more efficient equipment.

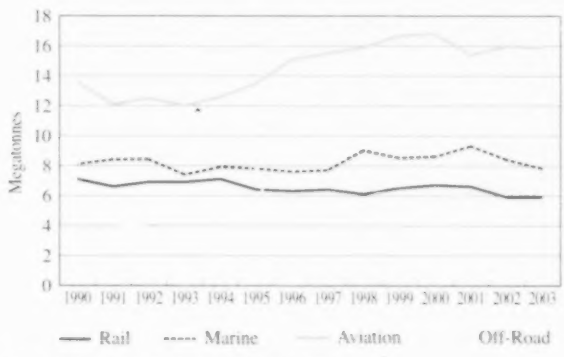
FIGURE 5-2: TRENDS IN ROAD TRANSPORTATION GHG EMISSIONS AND ACTIVITY, 1990 – 2003



Source: Energy Use Handbook, June 2005, NRCan, OEE

Figure 5-3 shows the trends in GHG emissions from the rail, aviation, marine and off-road sectors for the 1990–2003 period. Aviation is the largest non-road contributor to transportation sector GHG emissions, with 16 Mt in 2003, a 17 per cent increase since 1990. This increase occurred while airlines were employing more fuel-efficient aircraft, as well as larger aircraft with increased load factors. At 8 Mt, the marine sector was the next largest contributor to GHG emissions; overall, marine emissions have been relatively constant over this period, with a four per cent decrease. The rail sector was responsible for 6 Mt in 2003, a 17 per cent reduction over 1990, even though rail freight activity levels have increased by 30 per cent since 1990.

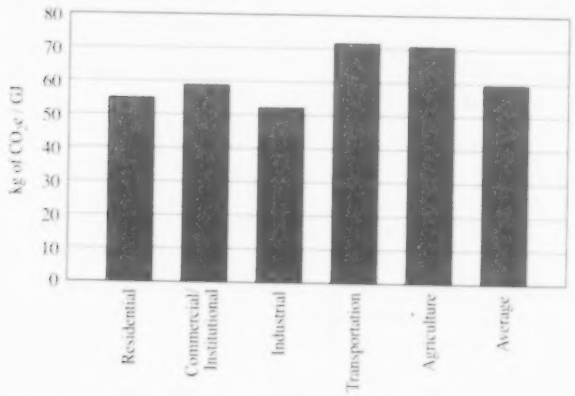
FIGURE 5-3: NON-ROAD TRANSPORTATION GHG EMISSIONS, 1990 – 2003



Source: Energy Use Handbook, June 2005, NRCan, OEE

Even though transportation GHG emissions are increasing at a slower rate than activity because of the more efficient travel of people and goods, all modes of transport are still greatly dependent on GHG-intensive hydrocarbons to provide them with energy. In fact, when looking at energy end use (including residential, commercial and institutional buildings, as well as industrial, agricultural and transportation activities), the sources of energy used in the transportation sector make it the most GHG intensive sector per unit of energy consumed in the Canadian economy, as is shown in Figure 5-4.

FIGURE 5-4: GHG INTENSITY OF ENERGY END USE SECTORS, 2003



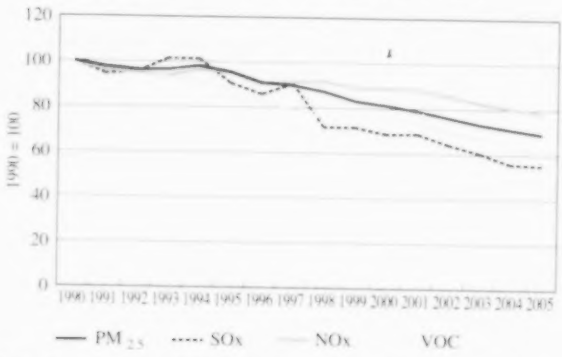
Source: Energy Use Handbook, June 2005, NRCan, OEE

Air Pollution Emissions

Air pollution emissions represent a significant environmental and health issue for Canadians, roughly 80 per cent of whom live and work in urban areas. These emissions include pollutants such as nitrogen oxides (NOx) and sulphur oxides (SOx); volatile organic compounds (VOC) such as gasoline fumes and solvents; and particulate matter (PM_{10} or $PM_{2.5}$). They are emitted from a wide range of sources, including the transportation system. Perhaps the most visible impact is urban smog, which has been linked to numerous health-related problems and to several thousand premature deaths in Canada each year. Smog is composed of two main ingredients: ground-level ozone and particulate matter. Ground-level ozone is created when NOx and VOC react together under specific conditions, such as calm, sunny days. NOx, along with SOx, are also the components of acid rain. Particulate matter is produced during the combustion of fossil fuels, including motor vehicles, industrial processes and power plants. Dust from paved and unpaved roads and road construction as well as forest fires are also major sources of particulate matter.

Fuels vary considerably in terms of the emissions to which they give rise. For example, in 2005, on-road and off-road diesel engines account for roughly 70 per cent of transportation-related $PM_{2.5}$ emissions (off-road diesel use alone accounts for 58 per cent) and 54 per cent of transportation-related NOx emissions. Gasoline engines, on the other hand, account for 87 per cent of transportation-related VOC emissions. Marine transportation, which uses a mix of diesel and heavy fuel oil, is responsible for 41 per cent of transportation-related SOx emissions. Figure 5-5 illustrates the trends in transportation-related $PM_{2.5}$, SOx, NOx and VOC emissions (1990 trends indexed to 100). Since 1990, the trend in all of these emissions has been downward, largely due to regulatory changes introduced by the federal government to reduce the health impacts of smog and the impacts of acid rain.

FIGURE 5-5: AIR POLLUTION EMISSIONS FROM THE TRANSPORTATION SECTOR, 1990 – 2005



Source: Environment Canada, 2002 Criteria Air Contaminant Inventory, Preliminary Estimates

Land And Water Quality

Commercial Shipping

The prevention of pollution from ships arises from regulations authorized under the *Canada Shipping Act* and *Arctic Waters Pollution Prevention Act*. In 2005, new proposed regulations were drafted. These proposed regulations are comprehensive, streamlined, and up to date and include new requirements particularly in the area of both sewage and air pollution prevention.

Canada is a signatory to the International Convention for the Prevention of Pollution from Ships (MARPOL 73/78). Provisions of Annex I, II, and III of the Convention are incorporated in our current regulations. The proposed new regulations would position Canada to further ratify Annex IV (sewage), Annex V (garbage) and Annex VI (air).

Transport Canada continues to strictly enforce pollution prevention regulations, inspecting ships for compliance with pollution prevention provisions and investigating of pollution incidents. Through the implementation of the National Aerial Surveillance Program (NASP), Transport Canada conducts routine pollution surveillance patrols over Canada's commercial shipping lanes to detect illegal discharges of oil from ships and to deter potential polluters. Three aircraft are strategically placed across the country to conduct pollution patrols in Transport Canada regions. During the 2005-06 fiscal year, Transport Canada is targeting 2000 pollution patrol hours.

Ballast Water

Ballast water is water carried in ship's tanks in order to allow the ship to sail safely when it is not fully loaded. When discharged, organisms and pathogens contained in the ballast water can be unintentionally transferred to a new location, which can be extremely harmful to both the ecosystem and the economy. Transport Canada published proposed Ballast Water Control and Management Regulations in the *Canada Gazette Part I* in June 2005. The proposed regulations address the exchange, treatment, disposal and retention of ballast water on board ships, and address ships with "no ballast on board". Transport Canada has reviewed comments made during the consultation period after publication in Part I and made several changes to the Part I version in order to clarify the intent of the requirements.

In 2005, Transport Canada received initial funding for two years under Phase 1 of the Oceans Action Plan to address ballast water issues, in particular research into shipboard ballast water treatment technologies.

Transport Canada is also promoting the introduction of a green ship program in Canada to provide incentives to environmentally friendly ships. Ballast water treatment technology is one of the factors being considered.

Air Quality

Transport Canada has the legislative and regulatory authority over emissions from marine (*Canada Shipping Act*), rail (*Railway Safety Act*) and aviation (*Aeronautics Act*) sources. Authority for emissions from road vehicles was transferred to Environment Canada from Transport Canada in 2000.

Rail

Canada has had regulations controlling the permitted levels of pollutants in road vehicle exhaust for many years, but there are no corresponding regulations for railway locomotives. The federal government intends to control pollution from railways through a voluntary Memorandum of Understanding (MOU) between Transport Canada, Environment Canada and the Railway Association of Canada (RAC). The MOU calls for the RAC to prepare an annual report on the gross overall emissions from all the locomotives owned by its member companies, and sets targets for CAC and GHG emissions on a kilogram per 1,000 tonne-mile basis. This MOU is to be derived from a ten-year agreement between Environment Canada and the RAC which expired on December 31, 2005, and which was primarily concerned with limiting oxides of nitrogen (NOx) emissions.

In order to calculate emission levels under the terms of the MOU, it is necessary to multiply locomotive fuel consumption by "emission factors" defined in grams of emissions per litre of fuel consumed. Valid, repeatable testing to industry-recognized standards is expensive to perform, with only a few laboratories having the required equipment. Therefore it is desirable to expand the body of information by carrying out practical tests on representative modern locomotives. To this end, Transport Canada is running a program of locomotive emissions testing on in-service locomotives, financed by the Borders Air Quality fund, with additional money from the Program for Energy Research and Development (PERD). In 2005, only one locomotive was part of the program, but this should increase to three in 2006.

Marine

The International Maritime Organization (IMO) requirements for air emissions are contained in Annex VI of MARPOL, *Regulations for the Prevention of Air Pollution from Ships*. These regulations cover topics such as ozone depleting substances, nitrogen oxide emissions from new diesel engines, and sulphur content of fuel oil. These international regulations came into force in May 2005. Transport Canada is proposing to include the Annex VI provisions as part of the 2006 regulatory reform of the *Canada Shipping Act*, 2001 for domestic implementation.

Aviation

The limits for aircraft emissions, as well as operational measures to reduce emissions, are based on standards and recommended practices that are first developed by the International Civil Aviation Organization's Committee on Aviation Environmental Protection (CAEP). These standards and practices are adopted as regulations under the authority of the *Aeronautics Act*.

Transport Canada has taken a lead role with the environmental committee of the International Civil Aviation Organization (ICAO). The key issues currently being addressed by the committee are aircraft noise, engine emissions and meeting the Kyoto Protocol. The comprehensive plan to address noise and emissions is based on a balanced approach of technical improvements, revised operational measures and local restrictions. The department will continue to improve standards for aircraft noise and engine emissions whenever it is justified, technically achievable and economically reasonable. The Kyoto Protocol requested that states pursue limitations or reductions in international aviation emissions through ICAO. The department is currently seeking international consensus on a plan, which includes technological improvements, more efficient operational procedures, voluntary measures and emissions trading mechanisms.

Transport Canada monitors emissions generated by airports and aviation activities. It has initiated research activities for the reduction of aviation emission activities within the sector and is a partner in the Centre of Excellence with the Federal Aviation Administration and the National Aeronautics Space Administration.

Use of Glycol

In 2005, Transport Canada reviewed the use of glycol, a fluid used to de-ice aircraft surfaces for safety purposes prior to flight departures during periods of inclement winter weather. Although glycol sometimes pollutes the air and groundwater, of greater significance is the hazard to aquatic life posed as a result of stormwater flowing into surface waters. To ensure that airport effluent does not negatively impact the environment, Transport Canada has implemented a program to sample and analyze stormwater at its airports. Water quality programs have also been established by local and Canadian airport authorities. Both Transport Canada airports and local airport authorities have implemented, in conjunction with air carriers, detailed glycol mitigation plans and procedures.

Climate Change Initiatives

Transport Canada develops and administers programs and special initiatives to support a more sustainable transportation system in Canada, including through the reduction of GHG emissions from transportation.

RECENT FEDERAL DEVELOPMENTS IN CLIMATE CHANGE

The Kyoto Protocol on Climate Change has been ratified by Canada and officially entered into force on February 16, 2005. The Protocol requires Canada to reduce its GHG emissions by six per cent below 1990 levels by the commitment period of 2008–2012. Considering transportation is the single largest emitter of GHGs in Canada, Transport Canada, along with its stakeholders, will continue to play an important role in developing strategies and programs that assist to mitigate and adapt to impacts of climate change on the transportation sector.

The United Nations Climate Change Conference (COP11) was held in Montreal from November 28 to December 9, 2005. This was also the First Meeting of the Parties to the Kyoto Protocol (MOP 1).

Motor Vehicle Initiative

The Advanced Technology Vehicles Program (ATVP) is a component of the Motor Vehicle Fuel Efficiency Initiative. The goal of the ATVP is to support Transport Canada's efforts to reduce GHG emissions in the transportation system. As of December 2005, the ATVP assessed 126 vehicles for their fuel efficiency, emissions and safety performance, including the Mercedes-Benz Smart Car. In addition, 7.1 million Canadians have been reached through 145 special events undertaken to showcase and raise public awareness of advanced technology vehicles.

MEMORANDUM OF UNDERSTANDING BETWEEN THE GOVERNMENT OF CANADA AND THE AUTO INDUSTRY ON REDUCING GREENHOUSE GAS EMISSIONS BY 2010

On April 5, 2005, the Government of Canada and the Canadian automobile industry signed an agreement to act on climate change. Under the agreement, carmakers will voluntarily work to reduce annual GHG emissions from light-duty vehicles by 5.3 Mt in 2010. The agreement exceeds the reduction needed to improve fuel efficiency by 25 per cent and targets all GHGs, going beyond the reductions in carbon dioxide emissions associated with fuel efficiency. To assess progress toward meeting this target, a joint industry-government monitoring committee has been established.

ECONOMIC INSTRUMENTS ANALYSIS

In 2005, Transport Canada officials developed a framework to analyze the possible use of incentives and disincentives to promote environmentally friendly vehicles. To conduct this analysis, Transport Canada developed a feebate analysis tool that was based on a state-of-the-art, peer-reviewed model created for the U.S. market. The Canadian version of this tool was developed with the collaboration of Dr. David L. Greene, U.S. Oak Ridge National Center for Transportation Analysis.

The model developed by Transport Canada was used by the National Round Table on the Environment and the Economy to conduct their analysis of feebate options, which was released to the public in November 2005.

Freight Initiatives

Freight Efficiency and Technology Initiative

Led by Transport Canada, in collaboration with Natural Resources Canada, the Freight Efficiency and Technology Initiative (FETI) is designed to reduce the growth of GHG emissions from freight transportation. It has three components: the Freight Sustainability Demonstration Program (FSDP); voluntary performance agreements between the federal government and modal associations to improve fuel efficiency and reduce GHG emissions; and information-sharing initiatives with the freight industry. In 2005, the FSDP allocated approximately $1.85 million for 14 new demonstration projects, bringing the total to $4.7 million for 35 projects. Six new projects began after contribution agreements were signed during the summer and fall months. Sixteen projects are now underway and three are completed.

An agreement was signed in June 2005 with the Air Transport Association of Canada (ATAC) to voluntarily reduce GHG emissions in the aviation sector. Through this voluntary agreement, ATAC will help its members improve their energy efficiency by an average of 1.1 per cent a year. This will result in a collective GHG emission reduction of 24 per cent by 2012, when compared with 1990 levels.

In 2005, FETI organized a marine conference to promote understanding and actions in support of sustainable freight transportation.

Freight Efficiency Program

Launched as part of the Climate Change Plan for Canada, the Freight Efficiency Program (FEP) is led by Transport Canada and is designed to reduce the growth of GHG emissions from freight transportation. This program is complementary to FETI and also has three components: the Freight Incentives Program (FIP); Marine Shore Power Pilots Project and a Shipper Awareness Program.

The Freight Incentives Program (FIP) provides financial incentives to purchase and install efficiency-enhancing technologies and equipment in the air, rail and marine modes. In 2005, the FIP had its second annual submission deadline, and approximately $2.2 million was allocated toward ten projects, bringing total program funding to approximately $3.2 million allocated to 13 projects.

Marine Shore Power has been identified as a promising ship-idling reduction technology with the potential to reduce the growth of GHGs and other pollutants in the marine sector. The Marine Shore Power Pilots Project has been established to provide funding for the installation of marine shore power at suitable locations across Canada. In fall 2005, Transport Canada received the final report of the Marine Shore Power Feasibility Study, which will serve as the foundation of the Marine Shore Power Pilots Program. The report includes a short-list of 15 promising port facilities across Canada.

The aim of the Shipper Awareness Program is to enhance the understanding of shippers, freight forwarders, transportation brokers and logistics service providers about the environmental impacts of their business decisions, and improve uptake of transportation alternatives available to them to reduce GHG emissions. Since the launch of the program in 2005, Transport Canada officials have consulted with industry to inform the development of the program, and partnered with the Canadian Industrial Transportation Association (CITA) and Supply Chain and Logistics Canada (SCL) to conduct baseline studies and shipper awareness focus groups. The CITA completed their benchmarking survey in winter 2005.

Urban Initiatives

Transport Canada administers two programs that encourage more sustainable transportation in Canada's cities and communities. These programs help municipal and non-profit partners test and implement cost-effective transportation strategies. The co-benefits of these programs support other important policy objectives for the transportation system in Canada, such as smog reduction, congestion relief and improved health. The programs are:

- Moving on Sustainable Transportation (MOST) program funds innovative, community-based sustainable transportation projects.
- Urban Transportation Showcase Program (UTSP) funds, in partnership with provinces and municipalities, integrated urban transportation "showcase" projects that demonstrate, evaluate, and promote cost-effective strategies for reducing GHG emissions. A Web-based national information network that shares innovative approaches to planning, implementing, and measuring the results of sustainable urban transportation initiatives, is also a component of this program.

In 2005, five municipalities continued to implement their UTSP demonstration projects: Halifax, Waterloo, Toronto/Hamilton, Whitehorse and Vancouver. For more information, visit http://www.tc.gc.ca/programs/environment/utsp/menu.htm.

Nineteen new MOST projects totalling $757,000 were approved for funding over the past year, for a total of 27 ongoing projects during the course of the year. These projects represent a wide variety of initiatives, ranging from supporting innovative car sharing approaches to quantifying the positive impacts of teleworking. An annual review rolled up the 18 completed projects, including Science West's *Getting Around: A Driving Force For Change* that won the Innovation Award from the Canadian Urban Transit Association and received the Award of Excellence from the conference of the Association for Media and Technology in Education in Canada.

Transport Canada completed a study examining the national impact of planned urban transit investments on urban transportation GHG emissions.

COST OF URBAN CONGESTION IN CANADA STUDY

In 2005, Transport Canada completed the first systematic study to examine the costs of urban congestion for Canada's nine largest urban areas: Quebec City, Montreal, Ottawa-Gatineau, Toronto, Hamilton, Winnipeg, Calgary, Edmonton, and Vancouver. As a wide range of congestion measurements exists, the study assessed and compared the various approaches and suggested a framework that could be used to benchmark recurrent urban congestion in Canada — that is, congestion that occurs from the regular, daily build-up of traffic. The study defines congestion as occurring when vehicles travel at or below an acceptable threshold of free-flow speed along a roadway. It examined traffic flows of between 50, 60 and 70 per cent of free-flow speed to account for what people from different cities consider to be the threshold. The study found that urban recurrent congestion costs Canadians between $2.3 billion and $3.7 billion in 2002 $ values. More than 90 per cent of this cost is the time lost in traffic to drivers and passengers; 7 per cent is attributable to increased fuel consumption; and 3 per cent is from increased greenhouse gas emissions.

This estimate of congestion costs in conservative, since it does not include the costs of non-recurrent congestion (i.e. congestion caused by random events, such as bad weather, accidents, stalled vehicles and other incidents). It also does not include the costs to the freight transportation sector. More data is required to better understand their costs. It is difficult to draw accurate comparisons between each city, since the data and how they are collected in each city are different, and each city has different perceptions on what congested road conditions are.

The aim of the study was to enhance our understanding of congestion and its impact to improve cost-benefit analysis of climate change initiatives that reduce congestion. Transport Canada released the results of the study on March 22, 2006. More information can be found at http://www.tc.gc.ca/mediaroom.releases/nat/2006/06-h006e.htm.

FEDERAL HOUSE IN ORDER INITIATIVE

The Federal House in Order (FHIO) initiative is the Government of Canada's plan for reducing GHG emissions arising from its operations, in line with *Action Plan 2000 on Climate Change*. Transport Canada, along with 10 other federal government departments, is required to report fuel consumption and GHG emissions including emissions from four categories of transportation (air, marine, on-road vehicles and field equipment) and building emissions. In 2001, the Government of Canada announced its intention to reduce emissions from its own operations by 31 per cent from 1990 levels by 2008–2012. As one of the principal operational departments, Transport Canada's share of the target is equivalent to a four per cent reduction from its 1998/99 baseline year. For more information about the program or to obtain a copy of the Federal House in Order 2004–2005 report, contact env@tc.gc.ca.

TRANSIT PASS PROGRAM

Under the FHIO initiative, Transport Canada has developed the Transit Pass program, an initiative developed with the transit companies in the National Capital Region (NCR) to encourage federal employees to use public transit by offering an annual pass with a discount. The program began originally as a payroll deduction pilot project among four departments including Transport Canada. Upon successful conclusion of the pilot, Transport Canada negotiated an agreement with OC Transpo to allow all federal departments and agencies in the NCR to have access to discounted transit passes through payroll deduction. As of December 2005, seven per cent of the 90 eligible departments and agencies have joined the Transit Pass Program representing over 8,000 public servants using payroll-deducted transit passes.

ENVIRONMENTAL MANAGEMENT

Transport Canada is responsible for managing its lands and facilities in an environmentally responsible manner. The department promotes compliance with environmental laws and federal government policies in its day-to-day operations, with a strong focus on bringing and maintaining its activities in line with federal policies and best practices. Transport Canada is responsible for a wide range of operations and approximately 886 properties, including fleets of aircraft and vehicles, as well as stores, warehouses, and offices in central and remote sites across the country. Although the department no longer directly operates many components of the transportation system, it retains the role of landlord and manager for major components of the system, including the National

Airports System. In this role, Transport Canada is responsible for ensuring appropriate stewardship of its lands and facilities.

Contaminated Sites

The federal government's 2004 Budget committed $3.5 billion over 10 years to accelerate the clean up of contaminated sites for which the Government of Canada is responsible. Transport Canada received funding through the Federal Contaminated Sites Accelerated Action Plan (FCSAAP) for two remediation and 10 assessment projects in 2004/05 for a total of $7.6 million. In 2004/05, Transport Canada spent a total of $26.2 million on the assessment and remediation/risk management of contaminated sites, including funding from the FCSAAP.

Environmental Management System

In order to set a positive example and to reduce its own environmental impacts, Transport Canada has increasingly been integrating environmental considerations into daily planning and decision-making. To achieve this objective, the department has adopted an Environmental Management System (EMS), an approach that has been used by governments and private companies around the world to ensure environmentally sound practices and to minimize liability. Fundamental to successfully integrating environmental considerations into daily decision-making, the EMS helps the department meet its objectives for sustainable development. The goal of the EMS is to produce a framework for continuous monitoring of departmental operations, which provides direction to its environmental activities.

In 2004/05, the department reviewed its current EMS audit protocol (adopted from Environment Canada) and determined that a Transport Canada specific audit protocol would better serve the department's needs. A new protocol was developed and is scheduled to be on Transport Canada's Intranet site by 2006.

Environmental Evaluation and Mitigation

As operator, landowner and landlord, Transport Canada continues to manage properties that have been contaminated by commercial and industrial activity. The department is committed to managing these contaminated sites in a responsible manner — its work on this front includes an ongoing contaminated site management program and a management policy that requires all contaminated sites on Transport Canada lands to be identified, classified, managed and recorded.

Environmental Assessments

Transport Canada conducts environmental assessments (EAs) for proposed projects in accordance with the *Canadian Environmental Assessment Act* (CEAA). Under the CEAA, Transport Canada must ensure that an EA is conducted whenever one of the following "triggers" is present — that is, when the department is: the proponent of a project; proposing to fund a project; the owner of the lands; proposing to sell or lease lands for the project; or, proposing to issue an approval or authorization listed in the Law List Regulations under CEAA. This process allows Transport Canada to request project proposals to be modified in order to prevent, minimize, or manage predicted adverse environmental effects, or may lead Transport Canada to refuse the project approval needed for the project to proceed.

In 2004/05, Transport Canada participated in a total of 883 EAs, of which 367 were completed and 516 were still underway. Most (853) of the EAs were screenings, while 21 were comprehensive studies and nine were panel reviews.

Strategic Environmental Assessment (SEA) is a systematic process for evaluating the environmental effects of policy, plan and program proposals to ensure that they are addressed early in the decision-making process and on an equal footing with economic and social considerations. Since the issuance of the first *Cabinet Directive on the Environmental Assessment of Policy, Plan and Program Proposals* in 1990, the department has implemented a number of measures to promote, undertake and monitor the environmental assessment of policy, plan and program proposals submitted to Cabinet or to the Minister of Transport for consideration. Transport Canada completed a total of 43 preliminary scans for policy, plan and program proposals during fiscal year 2004/05. One detailed analysis was completed and one was ongoing during this period.

RAIL TRANSPORTATION 6

Both CN and CPR expereinced increases in revenue tonne-kilometres in 2004. Canada–U.S. rail traffic was down in 2005 for Canada's rail export tonnage, but up for Canada's rail import tonnage.

MAJOR EVENTS IN 2005

Two new railways were created in 2005, the Fife Lake Railway in Saskatchewan and the Tshiuetin Railway in Newfoundland. Rail rationalization activity has plateaued in recent years, and the rail network contracted only marginally during the year.

Overall employment in the railway industry continued to decline during 2004, as it has over 15 years, while rail output over the same period has continued to increase.

INFRASTRUCTURE

The structure of Canada's rail system remained relatively stable in 2005. The only discontinuances were in Saskatchewan and Alberta, where Canadian Pacific Railway (CPR) discontinued 89 route-kilometres of track. CPR also transferred 13 route-kilometres to Capital Railway in Ontario, 16 route-kilometres to Agence Métropolitaine de Montréal in Quebec and 97 route-kilometres in Saskatchewan to the newly formed Fife Lake Railway. Other changes included a 339 route-kilometre reversion of track in Saskatchewan from Prairie Alliance For the Future (PAFF) back to Canadian National Railway (CN) and 215 route-kilometres of track transferred from Quebec North Shore & Labrador Railway to the newly formed Tshiuetin Railway in Newfoundland (and a small section of track in Quebec).

Shortline railways in Canada began modestly in the late 1980s and grew slowly during the early 1990s. Only 11 new shortlines formed before 1996. After the *Canada Transportation Act 1996* came into force, their number and activity exploded, with 37 new shortlines forming between 1996 and 2000. Since then, however, only a few new shortlines have been created. It is probable that more transfers will occur in coming years but it is unlikely they will do so at the same rate as in the 1990s.

Approximately 9,900 kilometres of rail line were discontinued between 1990 and 2005, most of it divided fairly equally between CN and CPR. While the majority of discontinuances used to be in eastern Canada, mainly Ontario and Quebec, most of the recent track loss has been in the Prairie provinces. Transfers typically occur from CN or CPR to other carriers. Lately, however, a substantial amount of track has been transferred among other carriers, as well as from regional carriers like Algoma Central and BC Rail[1] to CN. This also includes the more recent reversion of shortline trackage back to CN (PAFF in 2005 and RailAmerica's Alberta shortlines in January of 2006).

TABLE 6-1: RAILWAYS IN CANADA, 2005

	2005 Owned / Leased Route-kilometres	*2004 Owned / Leased Route-kilometres*	*Per cent of total (2005)*	*Percentage change over previous year*
CN Rail [CN]	21,631	21,293	44.6	1.6
CP Rail [CPR]	13,129	13,347	27.1	(1.6)
Regional and Shortline Railways	12,871	13,209	26.6	(2.6)
All Others[1]	835	834	1.7	0.2
Total	**48,467**	**48,683**		**(0.4)**

Notes: By definition, route-kilometres do not include parallel trackage, spurs, sidings and yard trackage.
Totals may not add up due to rounding.

1 Terminal and switching railways, Canadian subsidiaries of U.S. railroads and passenger railways.

Source: Transport Canada

1 For BC Rail for 2004, data other than rationalization and traffic was reported as a separate entity. It is to be fully integrated as part of CN beginning with 2005 fiscal year reporting.

Table 6-2 shows rationalization activity in the rail sector in 2005 and from 1990 to 2005.

TABLE 6-2: RAILWAY RATIONALIZATION IN CANADA

		2005 Rationalization	*1990 – 2005 Rationalization*
Discontinuances	CPR	89	4,662
	CN		4,231
	Other		1,065
	Total	**89**	**9,958**
Transfers	CPR	126	3,982
	CN		7,983
	Other	554	4,705
	Total	**680**	**16,670**
Total	CPR	215	8,644
	CN		12,214
	Other	554	5,770
	Total	**769**	**26,628**

Note: Totals may not add up due to rounding.
Source: Transport Canada

Since 1990, 26,628 kilometres of line have been rationalized. As a result, the structure of Canada's rail industry has changed significantly. CN and CPR are still the dominant carriers, accounting for about 90 per cent of industry activity and revenues. However, they operate about 75 per cent of the total domestic rail network instead of the 90 per cent they operated a decade ago.

Addendum tables A6-1 and A6-2 provide further details of railway rationalization in Canada by province.

INDUSTRY STRUCTURE

The number of rail carriers more than doubled in the 1990s, dramatically altering the character of the industry. Despite these changes, CN and CPR continued to generate the bulk of revenues in the rail industry. In 2004, the rail industry generated $8.9 billion in revenues. The Class I carriers, namely CN, CPR and VIA Rail, generated 90 per cent of this total, only slightly less than their 90.5 per cent share in 1990. Despite this, Class I carrier revenues grew 1.6 per cent per year from 1990 to 2004. By contrast, revenues of the regional[2] railways (BC Rail, Algoma Central,[3] Ontario Northland, Cartier Railway and the Quebec North Shore & Labrador) fell by 0.3 per cent per year up to 2002. Since Algoma Central's takeover by CN, this rate has jumped to 1.0 per cent per year for the 1990 – 2004 period. Shortline revenues grew 11.6 per cent per year over this period, from $95 million in 1990 to $444 million in 2004. The shortline sector's proportion of rail industry revenues grew from 1.5 to 5.3 per cent over this period.

Table 6-3 compares revenues in the railway sector in 2003 and 2004. Addendum Table A6-3 shows revenues since 1994.

TABLE 6-3: RAILWAY REVENUES, 2003 AND 2004

(Millions of dollars)

	2003	*2004*
CN	4,002	4,275
CPR	3,010	3,263
VIA Rail	415	421
Subtotal Class I	**7,427**	**7,959**
Regional[1]	467	451
Shortlines[1]	405	444
Total	**8,299**	**8,854**

1 Estimated for several carriers.
Source: Transport Canada, Statistics Canada

VIA Rail continues to dominate the intercity rail passenger sector. It accounted for 92 per cent of total passenger revenues in 2004. CN (former Algoma Central Railway services), Ontario Northland and the Quebec North Shore & Labrador provide the balance of intercity rail passenger services. The Great Canadian Railtour Company provides seasonal services between Vancouver and Calgary and Jasper. The American corporation Amtrak offers service to Montreal, Vancouver and Toronto (the latter in conjunction with VIA Rail).

EMPLOYMENT

Employment in the rail sector has been declining significantly over the past 15 years, from more than 67,000 in 1990 to about 36,000 in 2004. This averages out to a 4.5 per cent decrease per year. Employment at Class I carriers dropped 49 per cent or 4.7 per cent per year over this period. Employment at regional carriers fell 5.5 per cent per year, from 5,600 to 2,500 employees. This was due in part to CN's takeover of Algoma Central. By contrast, employment at shortline carriers increased 9.7 per cent per year, from 550 to just over 2,000 employees. The relative levels of employment in each class of carrier are consistent with these changes. From 1990 to 2004, the Class I carriers dropped from 91 per cent to 87 per cent of total rail industry employment while the regional carriers dropped from 8.4 per cent to 7.2 per cent. As would be expected, shortline employment grew from a virtually non-existent proportion to about 5.8 per cent of total rail industry employment.

2 Regional railways are larger carriers that operate over relatively long distances and whose traffic consists mainly of natural resources.

3 2002 was the final year that Algoma Central was recognized as a separate entity for operating and financial reporting purposes. All reporting has now been integrated under CN Rail.

Table 6-4 compares the level of employment in the rail industry in 2003 and 2004. Addendum Table A6-4 shows further details.

TABLE 6-4: EMPLOYMENT IN THE RAIL INDUSTRY, 2003 AND 2004

	2003	2004
Class I	31,595	30,966
Regional[1]	2,773	2,550
Shortline[1]	2,029	2,047
Total	**36,397**	**35,563**

Note: Totals may not add up due to rounding.
1 Estimated for several carriers.

Source: Transport Canada, Statistics Canada

ENERGY

From 1990 to 2004, Class I carriers, including VIA Rail, significantly increased their fuel efficiency. This is explained by comparing fuel consumption and output. As Addendum Table A6-5 shows, fuel consumption by Class I railways, while still accounting for 92 per cent of total sector fuel consumption in 2004, is comparable to that of 1990. However, as Addendum Table A6-6 shows, output in terms of revenue tonne-kilometres (RTKms) increased by almost 40 per cent over the same period, from about 225 billion to 314 billion RTKms.

These efficiency gains are largely because CN and CPR made important investments in new locomotive replacement programs in the latter half of the 1990s. They also changed operating practices and reduced operations over low-density lines, which for the most part were transferred to other operators. Table 6-5 compares output in the railway sector in 2003 and 2004.

TABLE 6-5: RAILWAY OUTPUT IN MILLIONS OF REVENUE TONNE-KILOMETRES, 2003 AND 2004

	2003	2004
Class I	293,870.6	313,654.4
Regional[1]	16,670.7	15,890.0
Shortline[1]	7,338.4	7,889.4
Total	**317,879.7**	**337,433.8**

1 Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Table 6-6 compares fuel consumption in the railway sector in 2003 and 2004.

TABLE 6-6: RAILWAY FUEL CONSUMPTION, 2003 AND 2004
(Millions of litres)

	2003	2004
Class I	1,801.5	1,895.1
Regional[1]	117.8	103.7
Shortline[1]	91.1	100.5
Total	**2,010.5**	**2,099.3**

1 Estimated for several carriers.

Source: Transport Canada, Statistics Canada

Until recent years, both fuel consumption and output of regional railways was relatively stable. Regional railways have surpassed Class I railways in fuel efficiency until recently, but this has been due largely to the extraordinary fuel efficiency of Quebec North Shore & Labrador Railway. Due to the nature of its operations, specifically the ability to run longer trains over a declining slope, the QNS&L has enjoyed fuel efficiencies almost double the industry norm.

FREIGHT TRANSPORTATION

Generally, the output of railways operating in Canada increased from 1990 to 2002. After CN experienced a four per cent decrease in revenue tonne-kilometres in 2003, down to 164 billion, it experienced a five per cent increase to 172 billion in 2004. CPR also experienced a significant increase in output, up 8.7 per cent to 140 billion revenue tonne-kilometres. Combined output of Class II carriers has been declining since 2000, from 30.7 billion tonne-kilometres to 24.0 billion tonne-kilometres in 2004.

From 1996 to 2000, movements of traffic forwarded to CN and CPR from Canadian Class II carriers increased. In 2001, however, these movements decreased slightly, to 18.5 million tonnes, due mainly to a drop in coal traffic from BC Rail. Since then, this traffic has generally continued to decrease, down to 16.3 million tonnes in 2004, largely as a result of CN's takeover of both Algoma Central and BC Rail. After a large jump in 1998 of Class II carrier traffic received from CN and CPR, this amount has fluctuated slightly around an average of 8.1 million tonnes. Traffic originating on a Canadian Class II carrier, forwarded to CN or CPR and then forwarded to another Canadian Class II carrier to be terminated also increased drastically in 1998 and had remained steady around 0.5 million tonnes. In 2004, however, this traffic decreased to 0.39 million tonnes. Because it involves a bridge movement over CN or CPR, the latter traffic has both a forwarded and received component and would be double-counted if included in either forwarded or received traffic. Addendum Table A6-7 shows the trend of forwarded and received rail traffic since 1996, while Addendum Table A6-8 shows tonnage originating by railway sector since 1994.

Based on three quarters of data for 2005, CN and CPR output is expected to increase to 203 and 145 billion tonne-kilometres, respectively.

Rail Freight Traffic — Commodities

As Addendum Table A6-9 shows, annual rail loadings increased four per cent in 2005 to reach 284 million tonnes (not including receipts from U.S. connections). Volumes increased almost five per cent in western Canada to 157 million tonnes and four per cent in eastern Canada to 128 million tonnes. Coal, fertilizer materials, forest products and grain were the main commodities loaded in western Canada, while iron ore, other ores and mine products, forest products and intermodal shipments dominated in eastern Canada.

Grain

After large decreases in 2002 and 2003 to 22 million tonnes, grain shipments increased in 2004 and remained steady in 2005 near 27 million tonnes. However, these shipments are still well below the 35 to 40 million tonnes shipped in the early 1990s.

Coal and Coke

Shipments of coal and coke fell sharply in 2003 to 31.8 million tonnes, increased slightly in 2004 to 33.1 million tonnes, and then increased again in 2005 to 35 million tonnes. This is just below the average of 38 million tonnes loaded since 1992.

Forest Products

Shipments of non-processed forest products fell to just over 16 million tonnes in 1998 and then remained steady until 2002 when they increased to 19 million tonnes. They fell again slightly to 17.5 million tonnes in 2003, held at 17.8 million tonnes in 2004 and increased slightly to 18.0 million tonnes in 2005. Shipments of processed forest products, by contrast, have been increasing since 1998. In 2005, volumes increased 16 per cent to almost 32 million tonnes. The net result has been a relatively stable volume of forest products, hovering around 40 million tonnes, until 2002, when loadings reached 45 million tonnes. After only slight changes in 2003 and 2004, total loadings of forest products increased again in 2005 to reach almost 50 million tonnes.

Ores and Mine Products

Shipments of iron ore peaked at 39 million tonnes in 1997. After a large decline in 2001 and an iron ore workers strike in 2004, shipments have remained relatively steady near 30 million tonnes, increasing only slightly in 2005 to 32 million tonnes.

Since 2000, shipments of other ores and mine products have remained steady near 25 million tonnes. In 2005, these shipments increased two per cent to 25.9 million tonnes.

Fertilizer Materials

Shipments of fertilizers have fluctuated since 1992, but have been increasing since 2001. They rose significantly in 2004 to 30.7 million tonnes and held steady in 2005 at 30.1 million tonnes.

Industrial Products

After reaching a 13-year peak in 2004, shipments of chemicals decreased just four per cent to 15.3 million tonnes in 2005. Continuing with a steady increase, shipments of metals rose almost four per cent to 12.2 million tonnes. For the second year in a row, shipments of automobiles and parts decreased, down almost six per cent to 4.9 million tonnes in 2005. After doubling in 1998, shipments of petroleum products have increased each year, reaching 14.5 million tonnes in 2005.

Intermodal

CN and CPR intermodal tonnage grew by 12.1 million tonnes from 1996 to 2004, an average annual growth rate of 6.5 per cent. Domestic North American traffic fell slightly in 2004, lowering the average annual eight-year growth rate to 7.3 per cent. Overall marine–rail intermodal traffic, however, increased for the third year in a row, resulting in average annual growth rates of 3.5 per cent for marine–rail exports and 8.8 per cent for marine–rail imports over the same period. Addendum Figure A6-1 shows these intermodal traffic trends. Growth in total rail intermodal volumes was most significant between 1998 and 1999, at 12.6 per cent. From 2003 to 2004, growth was three per cent, reaching 30.4 million tonnes. Figure A6-2 in the Addendum shows the origin and destination of CN and CPR intermodal traffic. As seen in Addendum Figure A6-3, the share of domestic North American intermodal traffic in 2004 dropped to 41.4 per cent, contrary to 2003, while the share of both rail–marine exports and imports increased.

As Addendum Figure A6-4 shows, the market share of containers on flat cars (COFC) continued to increase in 2004, accounting for more than 94 per cent of total intermodal volumes. This is up considerably from 77 per cent in 1996. This increase was balanced by a proportionate decrease of trailer on flat car (TOFC) volumes.

Rail Freight Traffic Between Canada and the United States

Addendum Table A6-10 shows volumes of rail export and import by commodity since 1996. Export rail tonnage in 2005 totalled 76.4 million tonnes, 0.3 per cent less than in 2004. At 29.9 million tonnes, a 6.6 per cent increase, forest products were again the largest contributor to export tonnage. Chemical exports remained the same at 12.5 million tonnes, while exports of fertilizer materials increased 2.6 per cent to 9.5 million tonnes. Exports of iron ore fell 188,500 tonnes, the third consecutive decrease; however, these movements by rail are still above the norm. Metals experienced the largest increase, up almost 15 per cent to 5.6 million tonnes; this is just above the nine-year average of 4.1 million tonnes. By contrast, grain exports fell 14 per cent to 4.0 million tonnes, just below the nine-year average of 4.2 million tonnes.

Addendum Table A6-11 shows the values of rail exports and imports by commodity since 1996. Automotive has consistently been the largest contributor to these totals, accounting for 45.5 per cent in 2005. Forest products followed at 18 per cent. Automotive exports decreased nine per cent to $34.7 billion, while forest products remained steady at $17.6 billion. Although other value export commodities of chemicals and metals increased, overall export value decreased two per cent to $76.6 billion.

Ontario remained the largest contributor to rail export volume and value, originating 23 per cent of export volume (17.6 million tonnes) and 58 per cent of export value ($44.5 billion) in 2005. However, these shares represent a 6.8 per cent and 8.5 per cent decline, respectively.

Alberta's contribution to rail exports increased from 1996 to 2004 before decreasing slightly in 2005 to 14.0 million tonnes. Nonetheless, it was still the second largest province of export by volume, accounting for 18.3 per cent of total exports in 2005. In terms of value, Quebec remains the second largest contributor to rail exports, accounting for 14 per cent and originating $10.7 million, a 10.9 per cent increase from 2004.

Import rail tonnage was 24.6 million tonnes in 2005, nearly a 15 per cent increase. Chemicals accounted for almost 24 per cent of rail imports and remained steady at 5.8 million tonnes, making it the largest contributor. Metals, the second largest group, increased significantly for the second year in a row, up 24.5 per cent to 3.6 million tonnes. This accounted for 14.4 per cent of total rail imports.

Automotive imports remained just above one million tonnes in 2005 totalling 12.7 billion, a 3.4 per cent increase. Automotive remained the top commodity by import value, accounting for 46 per cent of total imports.

As Addendum Table A6-14 shows, Ontario cleared 48 per cent of imports, 11.9 million tonnes in total. Alberta and Quebec followed Ontario with 16.6 per cent (4.1 million tonnes) and 10.1 per cent (2.5 million tonnes) shares of import volume, respectively. These shares represent increases for all three provinces of clearance. In terms of value, Ontario was also the dominant province of clearance in 2005, with $19 billion, a five per cent increase from 2004. This is evident in Addendum Table A6-15.

Addendum tables A6-16 to A6-19 give further details on exports and imports, including major commodities originating from and cleared in the provinces mentioned above.

Border Crossing Points

As Addendum Table A6-20 shows, the main border crossing points for rail exports by volume in 2005 were Fort Frances and Sarnia, both in Ontario. They accounted for 20.2 per cent (15.4 million tonnes) and 16.2 per cent (12.4 million tonnes) of exports, respectively. Forest products and chemicals accounted for about 60 per cent of rail export volumes through these locations.

As Addendum Table A6-21 shows, the main border crossing points for rail exports by value in 2005 were Sarnia and Windsor. They accounted for 31.2 per cent ($23.9 billion) and 21.8 per cent ($16.7 billion) of exports, respectively. Automotive products accounted for about 70 per cent of rail export value at these locations.

Addendum Table A6-22 shows that Sarnia was also the leading border crossing point for import tonnage in 2005, accounting for 18.5 per cent of total rail import volume (4.6 million tonnes). Chemicals accounted for 41 per cent of rail imports through this city. Other major locations as ports of clearance included Toronto, Edmonton, Sault Ste. Marie and Montreal.

The value of imports cleared in Sarnia and Windsor increased about 36 per cent in 2005, to $5.4 billion and $5.3 billion, respectively. This placed Toronto as the third largest port of clearance for 2005, at $4.0 billion. Automotive was the most valuable commodity group cleared at Sarnia and Windsor. Addendum Table A6-23 shows rail imports by value and port of clearance.

Overseas Trade

At 97.6 million tonnes in 2004, goods carried to and from Canadian ports by Class I railways was up significantly from the 83 million tonnes carried in 2003. Traffic in transit between Canada and the United States increased by 15 per cent to 6.3 million tonnes, the third consecutive increase. Addendum Table A6-24 shows fluctuations of rail–marine exports and imports since 1996.

Rail–marine exports originating in British Columbia increased by 29 per cent in 2004, due mainly to an increase in CPR's coal traffic and CN's movement of forest products from former BC Rail locations. Exports originating in Saskatchewan and Alberta also increased in 2004. These three provinces accounted for 82 per cent of total rail–marine exports in 2004. Addendum Table A6-25 shows rail–marine exports since 1996 for all provinces of origin and the United States.

After falling 11 per cent in 2003, rail–marine exports of coal traffic increased 6.6 per cent in 2004, to 26.7 million tonnes. While exports of grain jumped 31 per cent to 18.2 million tonnes, this was still considerably less than the average volume from 1996 to 2001 of 24.4 million tonnes. The third largest rail–marine export group, fertilizer materials, increased 30 per cent to 13.9 million tonnes, the largest volume reported within the nine-year series of data. Addendum Table A6-26 shows rail–marine exports by commodity since 1996.

Rail–marine imports by Class I carriers totalled 10.9 million tonnes in 2004, up 10.9 per cent from 2003. About 87 per cent (9.5 million tonnes) of these imports were intermodal.

Ontario and Quebec were again the main destinations of rail–marine imports in 2004, totalling 6.2 million tonnes, or 57 per cent of the total. This represented a 14 per cent increase over 2003. Rail–marine imports to the United States increased for the third year in a row, to 3.6 million tonnes, or 33 per cent of the total. Every other province of destination experienced an increase in rail–marine imports in 2004. Addendum Table A6-27 shows rail–marine imports since 1996 for all provinces of destination and the United States.

Although substantially less than intermodal traffic, forest products were the second largest commodity group for rail–marine imports in 2004, at 0.8 million tonnes. Imports of ores and mine products continued to decline, down five per cent to just under 0.2 million tonnes. Table A6-28 shows rail–marine imports by commodity since 1996.

PASSENGER TRAFFIC

There were almost 4.1 million intercity rail passengers in 2004, up slightly from 2003; however, total passenger-kilometres remained steady at 1.4 billion. VIA Rail carried 2.6 per cent more passengers (3.9 million in total) but travelled almost one per cent fewer passenger-kilometres (1.4 billion in total). Class II carriers carried 4.9 per cent fewer passengers in 2004 (0.16 million in total) and experienced a 19 per cent decrease in passenger-kilometres (44 million in total). Addendum Table A6-29 gives details of intercity rail passenger traffic for Class I and II carriers, including Algoma Central, Ontario Northland and the Quebec North Shore & Labrador Railway.

Total commuter rail traffic in Toronto, Montreal and Vancouver jumped 4.6 per cent in 2004 to 54.6 million passengers in total. Ridership increased again in 2005, to 56.2 million passengers. For both years, these changes reflect an increase for all three major commuter rail companies (Vancouver's West Coast Express, Toronto's GO Transit and Montreal's Agence Métropolitaine de Montréal). In 2005, GO Transit represented 70 per cent of commuter rail traffic, comparable to previous years. Addendum Table A6-30 shows total commuter rail ridership since 1994 for these three cities.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

Rail Freight Industry

The revenues of CN and CPR operations in Canada grew by 7.5 per cent in 2004. This was up from the average yearly increase of three per cent from 1999 to 2004. Rail freight rates increased by an average 0.5 per cent in 2004 (as rates increased in nearly all commodities) compared with an estimated average annual decrease of 0.3 per cent over the 1999 – 2004 period. Overall demand for rail freight services in 2004 increased by 6.1 per cent, while demand for agricultural shipments increased by 11.3 per cent. Overall rail freight revenues increased by 7.7 per cent, with revenues from agricultural and other bulk shipments increasing by 11.8 and 16.1 per cent, respectively. Intermodal services accounted for an estimated 26 per cent of total freight revenues, compared with 22 per cent in 1999.

Productivity increased for the ninth year in a row, up 2.8 per cent in 2004. Since 2000, productivity gains have averaged 4.3 per cent a year. Continued increases in oil prices translated into an increase of 1.7 per cent in unit fuel costs. However, both labour and capital unit costs declined, resulting in an overall 4.7 per cent drop in unit costs in 2004. CN and CPR had a combined operating profit of $1.72 billion in 2004, 18.6 per cent higher than in 2003. The operating ratio declined from 79.2 per cent to 77.2 per cent. The return on assets of the shortline railways declined to 7.3 per cent in 2004, following an increase in 2003. Addendum tables A2-61 to A2-64 provide more details on the railway industry.

VIA Rail

VIA Rail's revenues increased for the eighth time in nine years, up an estimated 4.2 per cent in 2004. This increase can be attributed to increased prices of 4.6 per cent for the year, despite a marginal drop in demand (-0.3 per cent). After a decline in productivity in 2003, VIA Rail's total factor productivity increased by an estimated 3.2 per cent in 2004. Unit costs decreased by three per cent in 2004. Combined with a small decrease in output, this resulted in a 3.2 per cent drop in total costs. After a decline in the overall cost-recovery ratio in 2003, the ratio increased to 48.6 per cent in 2004, the highest ratio in any year other than 2002.

ROAD TRANSPORTATION 7

A significant increase in for-hire trucking revenues was reported in 2004. The earnings of urban transit operators increased in 2004 by 4.2 per cent.

MAJOR EVENTS

National Highway System

At their September 22, 2005 meeting, the Council of Ministers Responsible for Transportation and Highway Safety adopted a criteria-based National Highway System (NHS) composed of three categories of route types: Core, Feeder, Northern and Remote. For each of these route categories, criteria and thresholds were developed and used in evaluating the eligibility of candidate routes. As a result of this decision, the length of NHS route network went from the 24,297 km established in 1988 to 38,021 km.

Legislative and Regulatory Changes

***Motor Vehicle Transport Act* (MVTA), 1987** — Revisions to the MVTA received Royal Assent on June 14, 2001. The provinces and territories, who enforce the federal regulations under the MVTA, have been preparing to implement the changes. An Order, published in the *Canada Gazette* Part II, on June 29, 2005, fixed January 1, 2006, as the date the Act would come into force. The Act modernizes and streamlines the regulation of extra-provincial motor carrier (bus and truck) undertakings in Canada. The objective is to have a consistent national regime for motor carriers that is focussed on carrier safety regulation.

Motor Carrier Safety Fitness Certificate Regulations — These regulations, under the *Motor Vehicle Transport Act* (MVTA), provide a framework to enable provinces and territories to implement a safety rating system for extra-provincial motor carriers (bus and truck) that is consistent across Canada. These new regulations, which were published in the *Canada Gazette* Part II on June 29, 2005, came into force on January 1, 2006. The new regulations specify how the provinces and territories will monitor the safety performance of all extra-provincial motor carriers licensed in their jurisdiction. Provinces would maintain a complete safety compliance profile of each motor carrier, using input from all jurisdictions in which those carriers operate.

Hours of Service Regulations — Revisions to the Federal Hours of Service Regulations for extraprovincial commercial vehicle (bus and truck) drivers was published in the *Canada Gazette* Part II on November 16, 2005, and come into force on January 1, 2007. The changes from the current regulations are the product of lengthy consultations with industry, the provinces and territories, and other stakeholders. The new rules provide significantly more opportunity for drivers to rest and will reduce the maximum daily driving time for truckers in a 24-hour period from 16 hours to 13 hours, or 19 per cent.

Fuel Costs and Trucking Protests

The effects of rising fuel prices in 2005 were to a certain extent mitigated by the fact that many carriers, including owner-operators, had fuel cost escalation provisions built into their shipping contracts. In both Canada and the United States, owner-operator associations focussed on the issue, using the slogan: "Say no to cheap freight." In Quebec, the "Forum des intervenants de l'industrie du camionnage general," which reaches the owner-operator community in the province, disseminated useful information on contract pricing and fuel surcharges on its Web site.

Despite awareness and business education programs within the industry, two incidents were at least partially attributable to the rising cost of fuel: the withdrawal of services by truckers serving the port of Vancouver in July, and a highway blockade in New Brunswick in September. The protest in New Brunswick was directly and almost entirely a response to fuel costs. Local small truck operators blocked commercial traffic on the Trans-Canada Highway in the northwest part of the province and in several other locations in the same region in early September. The blockade was strongly opposed by the major trucking associations and by others. The protestors lifted the blockade after three days on September 9, 2005.

The origins of the Vancouver dispute were more complex, in part because the players were in both provincial (the majority) and federal jurisdiction. At the centre of the dispute were the drayage operators who move containers at the Vancouver ports. These are mainly small owner-operators with a history of uneasy relations with, among others, the ports and the brokers through which they contract their services. Remuneration and waiting times were among the long-standing issues for this group, and rising fuel prices, by further eroding their revenues, brought matters to a head. On June 27, 2005, a significant number of owner-operator truckers serving the Vancouver ports withdrew their services and effectively brought trucking operations at the major container terminals to a halt.

In response, on June 30, 2005, the federal and provincial labour ministers jointly appointed a veteran labour negotiator to mediate between the truckers and the trucking companies and brokers. On July 29, 2005, the mediator recommended that the parties accept a Memorandum of Agreement containing provisions relating to rates and dispute resolution. Simultaneously, the federal government, on the recommendation of the Minister of Transport, invoked section 47 of the *Canada Transportation Act* and issued an Order in Council effectively giving the Vancouver Port Authority and the Fraser River Port Authority the power to enforce the provisions of the Memorandum of Agreement through a licensing system. The Order in Council was also necessary to ensure that the parties to the Memorandum were not in violation of the provisions of the *Competition Act*.

The mediator also recommended that the federal and provincial governments establish a task force to examine the underlying causes of the dispute in order to establish a longer-term framework to avoid similar disruptions in future. The Minister of Transport appointed the task force on August 8, 2005, after consultation with the federal ministers of labour and industry and with the province of British Columbia. The mandate of the task force reflected the mediator's recommendations.

The task force issued interim and final reports on September 21, 2005, and October 26, 2005, respectively. The recommendations proposed a comprehensive range of measures for both the provincial and federal governments, as well as the ports of Vancouver and Fraser River, including options for continuing a licensing scheme and exemption from the *Competition Act*. Discussions between Transport Canada the province, and the ports of Vancouver and Fraser River were ongoing at the end of 2005 and, in order to maintain stability while the parties develop and implement a long-term framework, a new Order in Council was issued on October 27 for a further 90 days.

Bus Industry and Safety Fitness Regime

Extraprovincial bus operators are among those subject to the safety fitness regime created by the amendments to the *Motor Vehicle Transport Act* that came into force at the beginning of 2006. Except for transit operators, bus companies will also be subject to the new hours of service regime.

There were few dramatic developments in the regulatory regime for the intercity and charter bus industry in 2005. The major exception was in July in Nova Scotia, where the Utility and Review Board revoked the licence of DRL Coachlines Ltd. after reviewing the carrier's safety performance. The board cited a "potential future risk to public safety" if the carrier continued to operate. DRL had provided scheduled service between Halifax and Yarmouth, as well as charter services to points in Nova Scotia and beyond. Suspending the operating licence of a scheduled carrier is a rare, if not unheard of, event in Canada. As such, the action of the Nova Scotia Utility and Review Board attracted attention nationally.

INFRASTRUCTURE

NATIONAL HIGHWAY SYSTEM (NHS)

On September 22, 2005, the Council of Ministers Responsible for Transportation and Highway Safety endorsed the recommendations made by the National Highway System Task Force of a criteria-based National Highway System composed of three categories of route type: Core; Feeder; and, Northern and Remote. As a result of this decision, the NHS encompasses 38,021 km of key linkages:

Jurisdiction	*Core Routes*	*Feeder Routes*	*Northern and Remote Routes*	*Total*
Yukon	1,079 km	-	948 km	2,027 km
Northwest Territories	576 km	-	847 km	1,423 km
Nunavut	-	-	-	-
British Columbia	5,861 km	447 km	724 km	7,032 km
Alberta	3,970 km	217 km	197 km	4,384 km
Saskatchewan	2,450 km	-	238 km	2,688 km
Manitoba	982 km	742 km	370 km	2,093 km
Ontario	6,131 km	706 km	-	6,836 km
Quebec	3,448 km	766 km	1,436 km	5,649 km
New Brunswick	993 km	832 km	-	1,825 km
Prince Edward Island	208 km	188 km	-	396 km
Nova Scotia	903 km	296 km	-	1,199 km
Newfoundland and Labrador	1,008 km	298 km	1,163 km	2,469 km
Total	**27,608 km**	**4,490 km**	**5,922 km**	**38,021 km**

ROAD NETWORK

Beginning with this 2005 Transport Canada Annual Report, and from this point on, road length estimates will be based on information obtained from the National Road Network (NRN). The NRN is a detailed digital map of the public road network in Canada developed by Natural Resources Canada. The first national coverage was made available in March 2005 and represented the network as it existed in 2003. It can be downloaded for free at: http://geobase.ca/geobase/en/search.do?produit=nrnc1&language=en.

The advantages of using the NRN as opposed to the source used in the past are:

- The NRN covers only the public road network in Canada making it more consistent with historical estimates of road length.
- The map is a non-proprietary source making it easier to share, upgrade and enhance.
- It has an estimate of the number of traffic lanes per road segment so that estimates of lane-kilometres and two-lane equivalent kilometres can be constructed.
- It identifies roads under provincial and local jurisdiction separately.
- The map has information on the type of surface (e.g., paved versus unpaved).

Table 7-1 shows that there were over one million two-lane equivalent lane-kilometres of public road in Canada (a lane-kilometre measures the number of lanes of traffic on each section of road; for example, if four lanes of traffic exist on a one-kilometre section of road, there are four lane-kilometres (i.e., four lanes x one kilometre). The same section also represents two kilometres of two-lane equivalent highway (i.e., four lane-kilometres divided by two).

TABLE 7-1: LENGTH OF PUBLIC ROAD NETWORK IN CANADA

	Length (two-lane equivalent thousand km)			*Provinces Territories share of total (per cent)*	*Percentage distribution*	
	Paved	*Unpaved*	*Total*		*Paved*	*Unpaved*
Newfoundland and Labrador	10.6	8.6	19.3	1.8	55.2	44.8
Prince Edward Island	4.3	1.8	6.0	0.6	70.8	29.2
Nova Scotia	18.1	9.0	27.1	2.6	66.8	33.2
New Brunswick	19.5	12.0	31.5	3.0	61.9	38.1
Quebec	81.5	63.2	144.7	13.9	56.3	43.7
Ontario	119.8	71.1	191.0	18.3	62.8	37.2
Manitoba	19.3	67.3	86.6	8.3	22.3	77.7
Saskatchewan	29.5	198.7	228.2	21.9	12.9	87.1
Alberta	61.7	164.6	226.3	21.7	27.3	72.7
British Columbia	48.2	22.9	71.1	6.8	67.8	32.2
Yukon	2.2	3.5	5.8	0.6	38.5	61.5
Northwest Territories	0.9	3.6	4.5	0.4	19.2	80.8
Nunavut	-	0.3	0.3	0.0	0.0	100.0
	415.6	**626.7**	**1,042.3**	**100.0**	**39.9**	**60.1**

Note: Estimates are not comparable with figures reported in previous annual reports.

Source: National Road Network (Edition 1.00)

Four provinces — Ontario, Quebec, Saskatchewan, Alberta — account for 75 per cent of the total length. Saskatchewan and Alberta account for half of the unpaved network (which represents three fifths of the total network length) while Ontario and Quebec account for nearly half of the paved network.

INDUSTRY STRUCTURE

TRUCKING INDUSTRY

The trucking industry has a significant role to play in Canada's economy. The goods shipped by the for-hire carriers, private carriers, owner-operators and courier firms that make up the industry, range from raw materials, to components, and to final products. In total, the industry generated an estimated $61 billion in revenues in 2004.

Trucking firms can be broken down in a number of different ways: the size of their fleet; the type of equipment they use; the geographic scope of their operations; the type of services they offer; and, the type of freight they carry. They can also be differentiated by jurisdiction of operations. Carriers that operate solely within a province fall within that province's jurisdiction. Carriers that provide interprovincial or international (extraprovincial) trucking services fall entirely within federal jurisdiction.

For-hire motor carriers are those that haul freight for others for compensation, offering either truckload (TL) or less-than-truckload (LTL) services, or a mix of the two. These carriers are further categorized according to the types of freight they carry, such as general freight, household goods, liquid and dry bulk, forest products, and other specialized freight. There were approximately 10,000 for-hire motor carriers in Canada in 2004, compared with 9,600 in 2003.

The top 10 for-hire trucking companies,[1] based on total number of fleet units (straight trucks, tractors and trailers) in Canada, remained unchanged in 2005 over the previous year. They include TransForce Income Fund, Montreal, Quebec, with 12,183 units; Trimac Transportation Services, Calgary, Alberta, (8,803 units); Vitran Corporation, Toronto, Ontario, (6,682 units); TransX, Winnipeg, Manitoba, (4,698 units); SLH Transport, Kingston, Ontario, (4,622 units); Challenger Motor Freight, Cambridge, Ontario (4,588 units); Robert Transport/Groupe Robert, Boucherville, Quebec, (4,285 units); Mullen Transportation Inc., Aldersyde, Alberta, (4,026 units); Paul's Hauling Group, Winnipeg, Manitoba, (3,945 units); and Contrans Income Fund, Woodstock, Ontario, (3,400 units).

In 2005, there were some changes in the industry (acquisitions, strategic alliances and mergers of motor carriers).[2] Canada's largest for-hire trucking operation, TransForce Income Fund of Montreal, was very active, acquiring 13 other firms during the year. The Fund acquired Groupe 2 B Inc., Rebel Transport Ltd., Express Golden Eagle Inc. and Le Groupe Fortier in the last quarter of 2005. More recently, it completed the acquisition of Alberta-based Kos Corp. Oilfield Transportation Ltd. Kos offers a wide range of transportation services to the energy industry in western Canada. As for Trimac Transportation Services, Canada's largest provider of bulk trucking services, there was the formation of the Trimac Income Fund in February 2005 and a re-organization of the firm into Canadian and U.S. operating entities. Vitran Corporation consolidated its U.S. operations with the acquisition in 2005 of Chris Truck Line, a regional LTL freight carrier based in Kansas, with operations in the midwestern and southwestern U.S. More recently, it acquired Sierra West Express Inc., a regional LTL freight carrier based in Nevada, with operations in the western United States. The Mullen Group made a number of acquisitions during the year, including TL/LTL carriers in British Columbia and Winnipeg. Mullen also strengthened its position in the oilfield services sector through acquisition of Schmidt Drilling, Pe Ben Oilfield Services, Spearing Service Limited and Burnell Contractors Limited, all of which are Alberta-based. Contrans Income Fund divested its school bus assets in the course of the year, and acquired two flatbed trucking operations in Ontario, L.A. Dalton Systems and Hopefield Trucking Limited.

Owner-operators operate as small independent for-hire truckers. They own and drive their own trucks, hauling trailers for other carriers or directly for a shipper. There were an estimated 36,000 owner-operators in Canada in 2004, compared with 35,100 in 2003. Using owner-operators allows a trucking company to expand or contract their capacity in response to changing market conditions.

Couriers and parcel-delivery firms operate trucks and provide some of the same services as for-hire carriers and are therefore considered to be part of trucking activity. However, most companies use small cube vans, automobiles and even bicycles for deliveries. There are relatively few trucks — approximately 2,000 — used in the courier industry. Operations include same-day messenger

1 Today's Trucking, March 2005.

2 Globe and Mail, globeinvestor.com, press releases February and March 2006.

delivery and overnight or later delivery. In 2004, the courier industry generated an estimated $6.0 billion in total revenues, based on average volumes of 2.4 million packages per day. There are approximately 17,000 small courier companies that generate revenues less than $1 million annually. The companies account for 97 per cent of the total number of courier companies yet account for only 14 per cent of total courier revenues.

Private trucking includes companies that primarily haul their own freight but occasionally haul goods for others for compensation. It is not covered by the for-hire segment. Because these trucks are operated by someone working for an industry other than for-hire trucking, the value of their services is captured under some other, non-trucking part of the national accounts (e.g., farming or manufacturing). Most companies that haul their own products in trucks they own do not record revenues for this operation. At $27.0 billion, the estimate for private trucking is better viewed as the operating costs of trucks for these companies. However, caution should be exercised when using this estimated value. To estimate the value of private trucking in 2004, the percentage increases/decreases in the for-hire sector since 1998 were applied to the value of private trucking as calculated in the January 1998 study *Profile of Private Trucking in Canada*.

Other includes that part of the industry that uses trucks for things other than hauling freight commercially. For example, municipal governments run some of the largest fleets on the road, using trucks as platforms for specialized equipment, such as garbage packers, tree-trimmers, cranes or snowplows, and construction companies use trucks and trailers to transport heavy machinery between job sites.

The annual number of business bankruptcies in the trucking industry has decreased steadily in last five years. The 506 bankruptcies in 2005 was the lowest number since 1998. The number of trucking bankruptcies decreased 9 per cent in 2003, 19 per cent in 2004 and 14 per cent in 2005. These decreases are more pronounced than those observed for other sectors of the economy. Addendum Table A7-1 shows the number of trucking bankruptcies compared with the economy by region from 1990 to 2005.

In terms of revenues, general freight carriers continue to dominate the for-hire sector, accounting for almost 60 per cent of for-hire revenues in 2004. Specialized freight accounted for 17 per cent of total revenues. Table 7-2 compares the revenues of all for-hire trucking firms by the type of freight carried from 2000 to 2004.

TABLE 7-2: FOR-HIRE CARRIER REVENUES BY ACTIVITY SECTOR, 2000 – 2004

(Millions of dollars)

Activity Sector	*2000*	*2002*	*2004*[1]	*2000*	*Share in per cent of total* *2002*	*2004*
General freight	12,953	13,957	16,553	58.6	59.1	58.2
Movers	794	693	857	3.6	2.9	3.0
Liquid bulk	1,773	1,932	2,359	8.0	8.2	8.3
Dry bulk	1,557	1,602	2,236	7.0	6.8	7.9
Forest products	1,214	1,246	1,420	5.5	5.3	5.0
Other specialized freight	3,812	4,179	5,020	17.2	17.7	17.6
Total	**22,103**	**23,609**	**28,447**	**100.0**	**100.0**	**100.0**

(Estimated number of carriers)

Activity Sector	*2000*	*2002*	*2004*[1]	*2000*	*Share in per cent of total* *2002*	*2004*
General freight	3,248	3,416	3,642	34.9	35.3	36.1
Movers	374	545	588	4.0	5.6	5.8
Liquid bulk	692	799	782	7.4	8.3	7.7
Dry bulk	1,666	1,486	1,546	17.9	15.3	15.3
Forest products	1,252	904	907	13.4	9.3	9.0
Other specialized freight	2,085	2,532	2,631	22.4	26.2	26.1
Total	**9,317**	**9,682**	**10,096**	**100.0**	**100.0**	**100.0**

Note: Including motor for-hire carriers of freight earning annual revenues of $30 thousand or more.
1. Small for-hire carriers estimated for 2004.

Sources: Transport Canada, based on Statistics Canada, Quarterly Motor Carriers of Freight Survey (QMCF) (2000-2004) and Annual Motor Carriers of Freight Survey (small for-hire carriers), Service Bulletin Cat. 50-002.

TABLE 7-3: DISTRIBUTION OF TOTAL FOR-HIRE TRUCKING REVENUES BY SIZE OF CARRIERS, 2000 – 2004

Year	Small Carriers (Less than $1 million) Revenues (Millions of dollars)	Small Carriers (Less than $1 million) Share (per cent of total)	Medium Carriers ($1 – 12 million) Revenues (Millions of dollars)	Medium Carriers ($1 – 12 million) Share (per cent of total)	Large Carriers ($12 – 25 million) Revenues (Millions of dollars)	Large Carriers ($12 – 25 million) Share (per cent of total)	Top Carriers (Over $25 million) Revenues (Millions of dollars)	Top Carriers (Over $25 million) Share (per cent (of total)	Grand Total Revenues (Millions of dollars)
2000	1,366	6.2	9,514	43.0	4,660	21.1	6,562	29.7	22,103
2001	1,512	6.3	11,277	47.1	4,506	18.8	6,662	27.8	23,958
2002	1,586	6.7	10,073	42.7	5,091	21.6	6,859	29.1	23,609
2003[1]	1,590	6.5	9,967	41.0	5,561	22.9	7,186	29.6	24,304
2004[1]	1,800	6.3	11,964	42.1	7,292	25.6	7,391	26.0	28,447

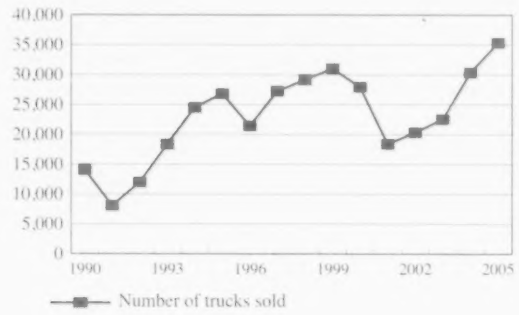
Note: Including motor for-hire carriers of freight earning annual revenues of $30 thousand or more.
1 Small for-hire carriers revenues estimated for 2003 and 2004.

Sources: Transport Canada, based on Statistics Canada, Quarterly Motor Carriers of Freight Survey (QMCF) (2000-2004) and Annual Motor Carriers of Freight Survey (small for-hire carriers), Service Bulletin Cat. 50-002

Table 7-3 shows total for-hire trucking revenues by size of carrier from 2000 to 2004, as measured by four categories of earned annual revenues: less than $1 million; $1 million to $12 million; $12 million to $25 million; and $25 million or more. Total revenues have almost tripled since 1991; the proportion of revenues for large carriers (earning between $12 million and $25 million), however, has increased, from 11 per cent in 1991, 21 per cent in 2000 to almost 26 per cent in 2004. Addendum Tables A7-2 and A7-3 show the same information over a longer time series.

Reported sales of Class 8 trucks[3] fluctuate yearly, driven by a number of factors, including the profitability of carriers, carriers' fleet replacement policies, and the demand for trucking services. The demand for many trucking services tends to increase or decrease with market conditions; and swings in these market conditions tend to be exacerbated in the final demand for trucking services. Following the 2001 economic slowdown in both Canada and the U.S., truck sales in Canada have increased steadily each year to reach an all time record of 35,281 vehicles in 2005. Figure 7-1 shows the sales of Class 8 trucks from 1990 to 2005.

FIGURE 7-1: SALES OF CLASS 8 TRUCKS IN CANADA, 1990 – 2005



Source: Canadian Vehicle Manufacturers' Association

Bus Industry

It is difficult to categorize the service provided by the Canadian bus industry because of the variety of services offered and because individual operators and corporate owners commonly provide services in several of the recognized categories.[4] For example, Laidlaw International Inc. is simultaneously a major school bus operator and, as Greyhound, the largest scheduled intercity service provider in Canada and the United States. Most bus operators in all categories offer some form of charter bus service.

Scheduled Intercity Service — Intercity bus service links all Canadian provinces and territories except Nunavut. The largest operator in Canada is Greyhound and its subsidiaries, which, as noted, are owned by Laidlaw. Greyhound primarily operates in Ontario and the four western provinces. Groupe Orléans is the major service provider in Quebec and the Maritime Provinces, operating as Orléans Express in Quebec and Acadian in the Maritimes. There are a number of smaller regional and local carriers, particularly in Quebec.

Charter, Tour, Shuttle and Other Commercial Services — These are a diverse group of services. Charter and tour operators primarily serve the discretionary travel market. Airport service is one of the most common forms of shuttle busing. Other commercial services include contracting busing, where the carrier provides regular service to a particular group, commonly workplace travel paid for by the employer. Some larger companies provide other services in addition to all these, Pacific Western Transportation Ltd. being the most prominent example. Other companies, such as Brewster Transportation & Tours and Coach Canada, concentrate on the charter/tour market. Pacific Western and Coach Canada also offer scheduled service in Alberta and Ontario, respectively.

3 Class 8 includes trucks with a gross vehicle weight exceeding 15,000 kilograms.

4 The North American Industrial Classification System (NAICS) has been used in Canada since 1997. The bus industry is grouped under six headings: urban transit systems; interurban and rural bus transportation (scheduled intercity); school and employee bus transportation; charter bus industry; other ground passenger transportation (shuttle); and scenic/sightseeing transportation.

School Service — School bus carriers transport students to and from school. While some school administrations in Canada provide this service directly, most contract it out to private operators. Besides Laidlaw, the larger school bus operators include First Bus, Pacific Western and Stock Transportation. Most school bus operators also provide some charter service.

Urban Transit Service — Over 90 cities, towns, regional municipalities and other urban entities in all Canadian provinces and two of the territories have transit service. Overall, the industry serves more than 20 million Canadians, using buses, coaches, trolleys, streetcars, light and heavy rail, and vans and taxis. Some urban transit operators offer school bus and charter services as well as dedicated services to persons with disabilities.

Bus Transportation

The Canadian bus industry is made up of approximately 1,500 operators that collectively move more than 1.5 billion passengers each year. In 2004, the bus industry generated an estimated $7.7 billion in total revenues,[5] including government operating and capital contributions. This industry can be looked at either by "segment" (i.e., by main company activity as classified under NAICS), or by "service lines" (or service activities) performed.

Bus segments (NAICS) — In 2004, urban transit was by far the largest sector, with close to 67 per cent of total industry revenues, including government contributions (or 49 per cent of total revenues excluding government contributions). Operating and capital contributions from governments accounted for 53 per cent of urban transit operators' total revenue. Urban transit operators are typically dedicated to transit operations, with only a fraction of their revenues coming from other service lines.

The "school bus" sector ranked second with approximately 25 per cent of total bus revenues (excluding government contributions), followed by intercity operators and charter/tour operators. Almost all of these operators, regardless of their primary business, provided other service lines, demonstrating the varied nature of the industry.

Service Lines — Over the past number of years, industry diversification, mergers and acquisitions as well as consolidated reporting, have clouded the industry sectors. This has rendered the "segment" approach to evaluating the industry less reliable.[6] Analysis by "service line" gives a better indication of activity in the industry. Overall, the industry has grown from $5.5 billion in 1997 to $7.7 billion in 2004, an average annual growth of slightly more than five per cent. However, this growth was unevenly distributed among service lines, averaging between no growth for "other passenger revenues" and 7.9 per cent for "charters, shuttle and sightseeing" services, the best performance of any of the service lines during this period.

Service line revenues have been somewhat higher since 2001 due to a new bus survey that captured a larger number of companies.[7] In terms of passengers carried, urban transit services (including urban transit operators and other operators offering transit services) carried an estimated 1,700 million passengers in 2004, a 2.5 per cent increase over 2003. As for intercity services, Transport Canada estimated that 15.5 million interçity passengers were carried in 2004, a 10 per cent increase over the 2003 total. This increase shows a return to the 2002 levels, a recovery from events in 2003[8] that affected tourism in Canada. Table 7-4 shows bus revenues by service lines from 1997 to 2004.

Urban Transit

In 2004, urban transit operators earned $5.2 billion, 4.2 per cent more than in 2003. Government contributions remained the main source of revenues, accounting for 53 per cent of total urban transit revenues. Urban transit services followed with 44 per cent. From 1996 to 2004, government contributions increased on average by 3.8 per cent annually. Over the same period, urban transit systems' operating revenues grew by 5.2 per cent annually. As a result, the government's contribution to total urban transit revenues decreased from 56 per cent to 53 per cent. Addendum Table A7-4 shows revenue services offered by urban transit operators from 1996 to 2004. Figure 7.2 illustrates revenue sources for urban transit operators in 2004.

5 Estimates of the bus industry revenues are by Transport Canada as Statistics Canada passenger bus and urban transit survey results for 2004 were not released (under revision).

6 For example, from 1995 to 2000, the "segment" approach did not adequately measure the bus industry, as some scheduled intercity carriers were recorded under school bus operators due to consolidated financial reporting coming from mergers and acquisitions. This was one of many factors that triggered the redesign by Statistics Canada of a new passenger bus survey (implemented in 2001) to collect both industry and activity data.

7 From 1994 to 2000, the passenger bus and urban transit survey covered companies having annual gross revenues of $200,000 or more. Starting in 2001, however, the new passenger bus survey has covered all companies that have at least one bus establishment engaged in the provision of bus and urban transit services.

8 The SARS (Severe Acute Respiratory Syndrome) crisis in spring 2003, the conflict in Iraq, and the power blackout in August 2003 affecting the north-eastern United States and southern Ontario were some of the events that affected business and tourism travel.

TABLE 7-4: BUS INDUSTRY REVENUES BY SERVICE LINES, 1997 – 2004

(Millions of dollars)

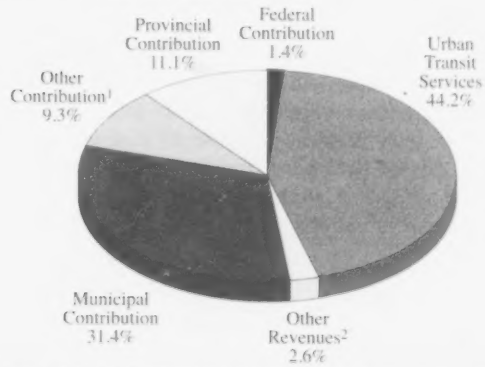
	1997	*1998*	*1999*	*2000*	*2001*[1]	*2002*	*2003*[2]	*2004*[3]
Number of companies	877	1,110	1,062	968	1,813	1,715	1,497	1,500
Business Lines								
Urban transit services	1,672	1,694	1,817	1,956	2,092	2,234	2,317	2,500
School bus transportation	826	894	915	964	1,112	1,220	1,233	1,250
Charters, shuttle & sightseeing services	316	369	352	449	469	506	552	540
Scheduled intercity services	241	240	236	271	332	329	319	370
Other passenger/operating revenues	191	216	219	225	246	283	197	190
Parcels express delivery	79	87	88	96	98	100	101	105
Total (excluding government contributions)	**3,326**	**3,499**	**3,627**	**3,961**	**4,349**	**4,672**	**4,719**	**4,955**
Government contributions[4]	2,137	2,386	2,562	2,271	2,355	2,440	2,774	2,780
Total	**5,463**	**5,885**	**6,189**	**6,231**	**6,703**	**7,112**	**7,493**	**7,735**

1 From 1997 to 2000: Includes bus operators with annual revenues greater than $200,000. Starting 2001, a new "Passenger bus and urban transit" survey was initiated by Statistics Canada covering a greater number of bus companies (no threshold revenues).
2 Preliminary data for 2003.
3 Data estimated by Transport Canada
4 Includes operating and capital government contributions for urban transit

Sources: Transport Canada, adapted from Statistics Canada, Passenger bus and urban transit statistics, Cat. 53-215, and Statistics Canada, Service Bulletin, Cat. 50-002; special tabulation based on NAICS and Canadian Urban Transit Association (CUTA).

In terms of passengers using urban transit, ridership levels decreased throughout the early 1990s to a low of 1,353 million passengers in 1996. With the exception of a small decrease in 2001, the number of passengers has since increased steadily to peak at 1,598 million passengers in 2004. This is the highest level in the last two decades. A similar pattern existed for distance travelled by urban transit vehicles. Vehicle-kilometres jumped from a low of 716.4 million in 1996 to a high of 887.1 million in 2004. This is an average annual increase of 2.7 per cent. For ridership and distance data over a longer period, see Table A7-5 in the Addendum. Figure 7-3 illustrates long-term trends in the urban transit sector from 1982 to 2004.

FIGURE 7-2: TOTAL REVENUES BY SOURCE – URBAN TRANSIT SECTOR, 2004

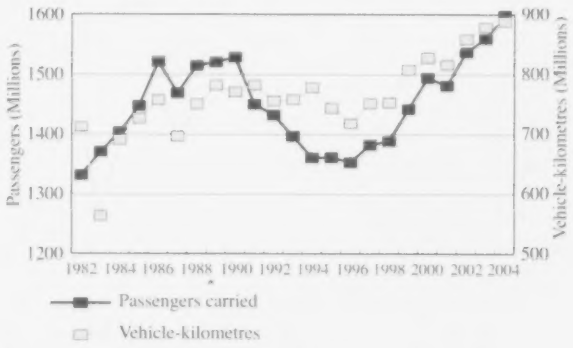


1 Other contribution includes dedicated taxes, transfers from regional agencies, Reserve Funds.
2 Other revenues include charter, school bus and other passenger bus services.

Source: Transport Canada tabulation, adapted from Canadian Urban Transit Association (CUTA) data.

In terms of vehicles, the urban transit fleet jumped from 13,049 to 15,236 units over the 1996 – 2004 period, an average annual increase of two per cent. The main change in the make-up of the fleet was the replacement of standard buses with more accessible, low-floor buses. Transit authorities used a total of 5,018 low-floor buses in 2004, up from 499 in 1996, representing an increase from five per cent of total standard motorbuses to 44 per cent. See Addendum Table A7-6 for details on urban transit fleet composition over this period.

FIGURE 7-3: LONG-TERM TREND IN URBAN TRANSIT, 1982 – 2004



Source: Statistics Canada, "Passenger bus and urban transit statistics", Cat. 53-215; special tabulations based on Canadian Urban Transit Association (CUTA) data

PASSENGER TRANSPORTATION

LIGHT VEHICLE FLEET AND USE

According to the 2004 Canadian Vehicle Survey, 17.7 million light vehicles were registered in the 10 provinces (data refer to in-scope vehicles with a gross weight less than 4,500 kilograms). Of this total, 10.1 million were classified as passenger cars and station wagons, 2.8 million vehicles were listed as vans, 1.3 million were classified as sport-utility vehicles, and 3.4 million vehicles were defined as pickup trucks. As a group, light trucks and vans represented nearly 43 per cent of the light vehicle fleet. As shown in Table 7-5, vans and light trucks were driven nearly 11 per cent more on average than passenger cars, amassing nearly 17,000 kilometres per year versus about 15,300 kilometres for cars and station wagons. Total vehicle-kilometres driven amounted to 154 billion for cars and station wagons (54 per cent) and 128 billion for vans and light trucks (45 per cent). Vans and light trucks also had slightly higher vehicle occupancies than passenger cars, accounting for nearly 48 per cent of light-vehicle passenger-kilometres. This equates to an average occupancy of 1.75 persons per light truck or van versus 1.57 for cars and station wagons.

TABLE 7-5: LIGHT VEHICLE FLEET STATISTICS, 2004

		Light trucks/vans					
	Car / station wagon	*Van*	*Sport-utility*	*Pickup truck*	*Sub-total*	*Other*	*Total light vehicles*
Vehicles (Millions)	10.1	2.8	1.3	3.4	7.6	0.1	17.7
Per cent share	56.9	16.1	7.5	19.2	42.8	0.3	100.0
Vehicle-km (Billions)	154.0	47.8	24.0	56.2	128.0	1.4	283.4
Per cent share	54.3	16.9	8.5	19.8	45.2	0.5	100.0
Passenger-km (Billions)	242.2	95.9	41.8	87.0	224.7	2.6	469.5
Per cent share	51.6	20.4	8.9	18.5	47.9	0.6	100.0
Litres of fuel (Billions)	14.4	6.2	3.2	7.9	17.2	0.1	31.7
Per cent share	45.2	19.4	10.0	24.9	54.3	0.5	100.0
Distance driven (Thousands of km)	15.3	16.8	18.1	16.5	16.9	23.2	16.0
Persons per vehicle	1.57	2.01	1.74	1.55	1.75	1.87	1.66
Fuel efficiency (L/100km)	9.3	12.9	13.1	14.1	13.5	10.6	11.2

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey, 2004 Annual Averages

Heavier trucks and vans are much less fuel efficient than cars. Calculated fuel efficiency for cars and station wagons averaged 9.3 L/100 km, more than 30 per cent lower than the corresponding consumption rate of 13.5 L/100 km for vans and trucks.

The distribution of light vehicles, vehicle-kilometres, and passenger-kilometres by province/territory followed the distribution of population with few exceptions (see Table 7-6). In terms of motorization (number of vehicles per capita), most jurisdictions were clustered around the overall average of 555 vehicles per 1,000 population, except for Alberta, Saskatchewan and the Yukon with rates over 10 per cent higher, and Newfoundland and Labrador, the Northwest Territories and Nunavut with rates at least 13 per cent below average. Annual average vehicle use was 16,000 kilometres nationally, with a low of about 14,500 for Newfoundland and British Columbia to a high of 17,500 in Nova Scotia. Nunavut continued to average less than 9,000 kilometres per year. Average vehicle occupancies were bunched around the national average of 1.7 persons per vehicle. Average light vehicle fuel efficiency varied from a low of 10.3 L/100 km in Nova Scotia, Prince Edward Island and Quebec to 12.4 L/100 km in Saskatchewan and Alberta.

With changes to the trip log introduced in 2004, trip purpose has been revised to reflect origins and destinations visited rather than a stated reason for making the trip. The distribution of light vehicle travel by trip origin is presented in Table 7-7. Nearly half the vehicle-kilometres driven started at the driver's home. Commuting to the normal place of work accounted for nearly 15 per cent of the vehicle-kilometres, followed by trips to shopping centres or visits to someone else's home, each with about 8.5 per cent of the vehicle-kilometres. Trips to leisure-type destinations accounted for a little over five per cent of travel.

TABLE 7-6: LIGHT VEHICLE STATISTICS BY PROVINCE/TERRITORY, 2004

					Averages			
	Vehicles (Thousands)	*Vehicle-kilometres (Billions)*	*Passenger-kilometres (Billions)*	*Litres of fuel purchased (Billions)*	*Vehicles per 1,000 population*	*Average distance driven (Thousands)*	*Passengers per vehicle*	*Average fuel efficiency (L/100km)*
Newfoundland and Labrador	247	3.6	6.2	0.4	477	14.5	1.7	10.9
Prince Edward Island	75	1.1	1.9	0.1	544	15.3	1.7	10.3
Nova Scotia	518	9.1	16.4	0.9	553	17.5	1.8	10.3
New Brunswick	437	7.1	12.0	0.8	581	16.3	1.7	11.4
Quebec	4,144	66.4	108.2	6.8	549	16.0	1.6	10.3
Ontario	6,599	112.4	184.3	12.5	532	17.0	1.6	11.1
Manitoba	609	8.8	15.9	1.0	521	14.5	1.8	11.5
Saskatchewan	635	10.0	17.3	1.2	639	15.8	1.7	12.4
Alberta	2,137	32.0	51.3	4.0	667	15.0	1.6	12.4
British Columbia	2,285	32.8	55.9	3.9	544	14.4	1.7	11.9
Yukon	23	0.4	N/A	N/A	760	17.1	N/A	N/A
Northwest Territories	19	0.2	N/A	N/A	449	12.4	N/A	N/A
Nunavut	3	0.0	N/A	N/A	99	8.9	N/A	N/A
Canada	**17,733**	**284.1**	**469.5**	**31.7**	**555**	**16.0**	**1.7**	**11.2**
Percentage distribution								
Newfoundland	1.4	1.3	1.3	1.2	86.0	90.4	105.8	97.8
Prince Edward Island	0.4	0.4	0.4	0.4	98.1	95.7	102.1	92.1
Nova Scotia	2.9	3.2	3.5	2.9	99.6	109.1	109.3	92.4
New Brunswick	2.5	2.5	2.6	2.6	104.8	101.6	102.2	102.4
Quebec	23.4	23.4	23.0	21.5	99.0	100.0	98.6	91.9
Ontario	37.2	39.6	39.3	39.4	95.9	106.3	99.2	99.5
Manitoba	3.4	3.1	3.4	3.2	93.9	90.6	108.5	103.3
Saskatchewan	3.6	3.5	3.7	3.9	115.2	98.7	104.2	110.6
Alberta	12.1	11.3	10.9	12.5	120.3	93.4	97.1	111.4
British Columbia	12.9	11.6	11.9	12.4	98.1	89.7	103.1	106.9
Yukon	0.1	0.1	N/A	N/A	137.0	106.9	N/A	N/A
Northwest Territories	0.1	0.1	N/A	N/A	80.9	77.5	N/A	N/A
Nunavut	0.02	0.01	N/A	N/A	17.9	55.3	N/A	N/A
Canada	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Canadian Vehicle Survey, 2004 Annual Averages

TABLE 7-7: LIGHT VEHICLE VEHICLE-KM BROKEN DOWN BY TRIP ORIGIN, 2004

Place	*Vehicle-km*	*Share (per cent)*
Driver's home	132.3	46.7
Someone else's home	24.5	8.6
Driver's regular workplace	41.7	14.7
Another workplace	10.4	3.7
School/day care	4.2	1.5
Shopping centre/bank/other place of personal business	24.0	8.5
Medical/dental facility	3.8	1.4
Leisure/entertainment/recreational facility/restaurant	14.8	5.2
Gas station/rest stop	13.7	4.8
Other	14.0	4.9
Total	**283.4**	**100.0**

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey, 2004 Annual Averages

If origin and destination are classified by primary purpose, the result is a different distribution (see Table 7-8). Work trips accounted for nearly 23 per cent of vehicle-kilometres while shopping trips accounted for over 13 per cent and leisure trips for 8.5 per cent. All other purposes account for 37 per cent of vehicle-kilometres with nearly 20 per cent of the travel unspecified round trips or tours from driver's home to driver's home.

TABLE 7-8: DISTRIBUTION OF VEHICLE-KM BY TRIP PURPOSE, LIGHT VEHICLES, 2004

Trips involving:	*Vehicle-km*	*Share (per cent)*
Work	65.0	22.9
Shopping	37.7	13.3
Leisure/entertainment	24.0	8.5
Other	104.1	36.7
Unspecified	52.7	18.6
Total	**283.4**	**100.0**

Notes: Figures exclude the territories.
Trip purpose is computed by adding up travel to each trip destination and all travel running from the destination to the driver's home (e.g., "Work" includes all vehicle-kilometres with work as the destination plus all vehicle-kilometres from work to the driver's home).
Unspecified refers to all trips where both the trip origin and destination was recorded as the driver's home.

Source: Canadian Vehicle Survey, 2004 Annual Averages

TABLE 7-9: LIGHT TRUCK STATISTICS, BY AGE OF TRUCK, 2004

	Vehicles		Vehicle-km		Litres of fuel consumed		Average distance driven	Fuel consumption ratio
	Millions	*Share*	*Billions*	*Share*	*Billions*	*Share*	*(Thousands of km)*	*(L/100 km)*
Less than 3 years	3.2	18.3	64.9	22.9	7.2	22.8	20.1	11.2
3-5 years	4.2	23.5	73.9	26.1	8.0	25.3	17.8	10.8
6-9 years	4.4	24.9	71.6	25.3	8.1	25.6	16.3	11.3
10-13 years	3.3	18.4	45.2	15.9	5.0	15.8	13.9	11.1
14+ years	2.6	14.9	27.8	9.8	3.3	10.5	10.6	12.0
Total	**17.7**	**100.0**	**283.4**	**100.0**	**31.7**	**100.0**	**16.0**	**11.2**

Note: Figures exclude the territories.

Source: Canadian Vehicle Survey, 2004 Annual Averages

According to Table 7-9, over 40 per cent of the light vehicle fleet was five years of age or less while about one third of the fleet was 10 years of age or older. Younger vehicles were driven more on average than older vehicles, ranging from about 20,000 kilometres per year for vehicles under three years old to 16,000 kilometres per year for vehicles six to nine years old to only 10,600 for vehicles 14 years or older. Average light vehicle fuel efficiency was very similar for all vehicles less than 14 years of age at a little over 11 L/100 km. Vehicles 14 years or older had a fuel consumption ratio seven per cent higher than the average.

FREIGHT TRANSPORTATION

HEAVY TRUCK FLEET BY PROVINCE/TERRITORY

Information on the heavy truck fleet and its use characteristics can be found in the Canadian Vehicle Survey (see Table 7-10). In 2004, over 600,000 trucks were registered with a gross vehicle weight of at least 4,500 kilograms. This fleet was split between 325,000 medium trucks weighing between 4,500 kilograms and 15,000 kilograms and 277,000 heavy or Class 8 trucks weighing over 15,000 kilograms. Three quarters of the Class 8 heavy truck fleet was concentrated in three provinces: Ontario with 37 per cent, Alberta with nearly 25 per cent and Quebec with 13 per cent. The medium truck fleet was concentrated in five provinces sharing about 90 per cent of the total. Over 20 billion vehicle-kilometres were performed in heavy trucks in 2004, versus about seven billion for medium trucks. The distribution of heavy truck vehicle-kilometres was even more concentrated in Ontario, Alberta, and Quebec with the three provinces accounting for over 80 per cent of the kilometres driven.

Given similar numbers of trucks and a huge difference in vehicle-kilometres, it was no surprise that average distance driven per truck was much greater for heavy trucks compared with medium trucks. On average, heavy trucks were driven nearly 75,000 kilometres per year, three and a half times greater than the 21,000 kilometres driven by medium trucks. The variation in heavy truck average distance driven by province was also substantial.

TABLE 7-10: HEAVY TRUCK FLEET STATISTICS BY PROVINCE/TERRITORY, 2004

	Vehicles *(Thousands)*		Vehicle-km *(Millions)*		Percentage distribution *Vehicles*		*Vehicle-km*	
	Medium	*Heavy*	*Medium*	*Heavy*	*Medium*	*Heavy*	*Medium*	*Heavy*
Newfoundland and Labrador	3.7	2.7	47	118	1.1	1.0	0.7	0.6
Prince Edward Island	1.5	2.6	13	68	0.5	0.9	0.2	0.3
Nova Scotia	7.3	6.9	143	363	2.2	2.5	2.1	1.7
New Brunswick	5.6	3.9	102	123	1.7	1.4	1.5	0.6
Quebec	48.9	37.3	1,382	3,938	15.1	13.4	19.9	19.0
Ontario	73.0	102.9	1,675	7,986	22.5	37.1	24.1	38.5
Manitoba	9.4	14.2	136	1,462	2.9	5.1	2.0	7.1
Saskatchewan	34.4	23.4	372	1,132	10.6	8.4	5.3	5.5
Alberta	78.3	68.3	1,776	4,855	24.1	24.6	25.5	23.4
British Columbia	60.5	12.9	1,282	516	18.7	4.6	18.4	2.5
Yukon	1.2	1.2	22	108	0.4	0.4	0.3	0.5
Northwest Territories	0.6	1.0	8	61	0.2	0.4	0.1	0.3
Nunavut	0.2	0.1	3	1	0.07	0.04	0.04	0.00
Canada	**324.5**	**277.3**	**6,960**	**20,730**	**100.0**	**100.0**	**100.0**	**100.0**

Note: Medium trucks have a gross weight between 4.5 tonnes and 15 tonnes; heavy trucks have a gross weight of 15 tonnes or more.

Source: Canadian Vehicle Survey, 2004 Annual Averages

ranging from a low of 26,000 per vehicle in Prince Edward Island to 106,000 per vehicle in Quebec. Medium truck use across jurisdiction also had a wide range of variation from a low of only 9,000 in Prince Edward Island (6,000 in Nunavut) to over 28,000 in Quebec.

Heavy Truck Vehicle Configurations

Table 7-11 provides another view on the medium/heavy truck fleet based on truck configuration. The majority of trucks were classified as straight trucks (i.e., the power unit and the cargo area are combined in a single chassis) with 362,000 registered in the 10 provinces. About 175,000 trucks were classified as tractor-trailers (i.e., the power unit pulls the cargo area in a separate trailer), with the balance, about 60,000 vehicles, classified as other vehicles. While tractor-trailer combinations accounted for about 30 per cent of the fleet, they accounted for over 60 per cent of the truck vehicle-kilometres, or 17.1 billion. Once again, this pattern was the result of the massive difference in average distance driven per vehicle. Straight trucks were driven a little over 25,000 kilometres annually, while tractor-trailers were driven nearly 100,000 kilometres per year. Heavy truck fuel efficiency averaged about 32 L/100 km, with straight trucks averaging 29 L/100 km and tractor-trailers averaging 34 L/100 km (see Table 7-11).

Table 7-12 provides more detail on heavy truck vehicle configurations. Medium trucks were characterized by the straight truck configuration with 87 per cent of the kilometres driven using this format. Heavy trucks, by contrast, were dominated by various tractor-trailer combinations with the most popular being a tractor and one trailer (the conventional 18 wheeler), which accounted for two thirds of the heavy truck vehicle-kilometres. Straight trucks performed only 16 per cent of the heavy truck vehicle-kilometres.

Table 7-13 provides information on the typical uses of medium and heavy trucks. Medium trucks had many uses with 61 per cent of the vehicle-kilometres used for carrying goods or equipment, a traditional freight-hauling role, and 34 per cent devoted to non-freight carrying functions such as making service calls. These latter functions illustrate that medium-sized trucks were not confined solely to the for-hire or private "trucking" business. Of the 6.9 billion vehicle-kilometres driven in the 10 provinces, six per cent were done with empty trucks.

Heavy trucks were used predominantly for the conventional goods-hauling role with 75 per cent of the vehicle-kilometres used for carrying goods or equipment. Only 11 per cent were for other work purposes, and about 14 per cent of vehicle-kilometres were made with empty trucks.

TABLE 7-12: TRUCK VEHICLE-KM BY DETAILED CONFIGURATION, 2004

	Medium (per cent)	*Heavy (per cent)*
Straight truck	87.0	16.1
Tractor only	0.4	3.6
Tractor and 1 trailer	1.6	67.3
Tractor and 2 trailers	-	11.2
Tractor and 3 trailers	-	0.1
Other	11.0	1.7
Total vehicle-km (billions)	**6.9**	**20.6**

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes. Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2004

TABLE 7-13: USE OF HEAVY VEHICLES, 2004

	Medium trucks		*Heavy trucks*	
	Vehicle-km	*Share (per cent)*	*Vehicle-km*	*Share (per cent)*
Carrying goods/equipment	4,193	61	15,489	75
Empty	384	6	2,800	14
Other work purpose	2,350	34	2,271	11
Total	**6,927**	**100**	**20,560**	**100**

Notes: Figures are in billions and refer to all trucks with a gross weight of at least 4.5 tonnes. Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2004

TABLE 7-11: TRUCK STATISTICS, BY CONFIGURATION, 2004

	Vehicles		Vehicle-km		Fuel (litres)		Average distance driven *(thousands of kilometres)*	Fuel efficiency *(Litres/100km)*
	thousands	*share*	*billions*	*share*	*billions*	*share*		
Straight truck	362	60.7	9.1	33.3	2.6	29.9	25.2	28.7
Tractor-trailer	175	29.2	17.1	62.3	5.9	66.7	97.9	34.3
Other	60	10.1	1.2	4.5	0.3	3.4	20.4	24.1
Total	**598**	**100.0**	**27.5**	**100.0**	**8.8**	**100.0**	**46.0**	**32.0**

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes. Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2004

FOR-HIRE/PRIVATE OPERATION

Table 7-14 presents a breakdown of heavy truck activity by for-hire/private operation. For-hire trucking operators provide trucking services to other companies for profit while private operators typically haul their own goods (e.g., bakeries, beer companies). Owner-operators own their own truck and hire out trucking services to other individuals or companies for profit. They are similar to for-hire firms except on a much smaller-scale.

Private trucking is concentrated in short-distance movements using largely medium-sized trucks. Private firms operate over half of the medium trucks registered, 13 per cent are operated by for-hire firms and 18 per cent by owner-operators. Moreover, about 75 per cent of the fleet operated by private firms was medium-sized trucks. By contrast, private operators account for only 22 per cent of the heavy truck fleet, with for-hire operators accounting for 45 per cent and owner-operators accounting for about 25 per cent. Heavy trucks, accounting for three quarters of the total, dominate for-hire fleets. Overall, private truckers operated 39 per cent of the truck fleet, 28 per cent was operated by for-hire truckers, 21 per cent by owner-operators, and 12 per cent by other/unknown.

Vehicle use was dramatically different between the for-hire and private trucking sectors. About half the vehicle-kilometres were performed by for-hire operators, nearly one quarter by owner-operators and only one fifth by private operators. The average distance driven was tilted heavily in favour of for-hire operators: they drove over 80,000 kilometres per year versus private truckers who drove only 24,000 kilometres and owner-operators who travelled 53,000 kilometres. Heavy-class trucks run by for-hire companies logged nearly 100,000 kilometres in 2004, compared with only 40,000 for private trucking companies.

TRUCKING FREIGHT TRANSPORTATION

TRUCK TRAFFIC IN CANADA

At the time of publication of this report, no 2004 truck traffic data in terms of tonnes, tonne-kilometres and transportation revenue on an origin/destination basis was available. A new Trucking Commodity Origin and Destination (TCOD) Survey has been developed and put in place by Statistics Canada with 2004 as the reference. However, this data is not yet available to users. Trade data (value) was used to approximate truck traffic for 2004.

TRUCK TRAFFIC BY SECTOR

The most recent data available for domestic trade[9] is from 2002. The value of goods traded at the domestic level by all modes was estimated to be approximately $581 billion, including 77 per cent ($448.7 billion) in the intraprovincial sector, while 23 per cent ($132.1 billion) was recorded interprovincially. Ontario dominated trade within the provinces with goods traded worth $181.4 billion or 40 per cent of total intraprovincial commodity trade. Quebec ranked second with a 21 per cent share, followed by Alberta at 17 per cent and British Columbia at 10 per cent.

TABLE 7-14: HEAVY VEHICLE USE BY TYPE OF OPERATION, 2004

	Number of vehicles (thousands)			*Vehicle-km (billions)*			*Average distance travelled (thousands of km)*		
	Medium	*Heavy*	*Total*	*Medium*	*Heavy*	*Total*	*Medium*	*Heavy*	*Total*
For-hire	41	125	166	1.2	12.2	13.4	30.2	97.4	80.9
Owner-operator	59	67	125	1.6	5.1	6.6	27.0	75.7	52.9
Private	174	60	234	3.2	2.4	5.5	18.2	39.6	23.7
Other	49	24	72	0.9	1.0	1.9	19.1	41.4	26.4
Total	**323**	**275**	**598**	**6.9**	**20.6**	**27.5**	**21.5**	**74.8**	**46.0**
Per cent									
For-hire	12.7	45.4	27.7	17.8	59.2	48.8	140.6	130.3	175.8
Owner-operator	18.2	24.3	21.0	22.8	24.6	24.1	125.8	101.2	115.1
Private	54.1	21.8	39.2	45.9	11.5	20.2	84.9	52.9	51.5
Other	15.1	8.6	12.1	13.5	4.7	6.9	89.1	55.4	57.4
Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Notes: Figures refer to all trucks with a gross weight of at least 4.5 tonnes. Figures exclude the territories and buses.

Source: Canadian Vehicle Survey 2004

9 Interprovincial trade flows are estimated using the provincial National Accounts Information System, which is based on inputs and outputs. Statistics Canada recently issued a new time series (1997-2002) based on the new North American Industry Classification System (NAICS), but this does not include a modal breakdown of the provincial trade flows.

TABLE 7-15: SHARE OF FOR-HIRE TRUCKING TRAFFIC IN DOMESTIC SECTOR, 2003

(Millions tonnes)

	Intraprovincial	*Interprovincial*	*Total*	*Share*
For-hire trucking	168.42	51.35	219.77	49.4
Rail	46.37	109.87	156.24	35.1
Marine	47.64	20.66	68.30	15.4
Air	N/A	N/A	0.45	0.1
Total	**262.43**	**181.88**	**444.76**	**100.0**

Source: Transport Canada, adapted from Statistics Canada, various publications

As the modal breakdown was not available from the "input-output" source, a rough estimate of the value of domestic trade carried by trucks could be derived from many sources, such as transportation surveys[10] for various modes (tonnes) and the Canadian Vehicle Survey. As shown in Table 7-15, in 2003, Canadian for-hire trucks[11] carried over 60 per cent of total tonnage shipped intraprovincially, while the rail mode dominated at the interprovincial level with nearly 61 per cent of total tonnes shipped between provinces. For-hire trucking ranked second (28 per cent) interprovincially. The Canadian Vehicle Survey (CVS) also provided some estimates of vehicle-kilometres for all trucks weighing at least 4,500 kg broken down by sector. In 2003, approximately 68 per cent of all truck vehicle-kilometres were driven intraprovincially. As a result, it would be relatively safe to estimate that at least 50 per cent of domestic trade activity is related to trucks, and the percentage is probably higher as the traffic activity of private carriers, small for-hire carriers and owner-operators is not currently measured.

At the international level, international trade customs-based data provides the mode of transportation at the port of exit (export case) and at the port of clearance in the case of imports. In 2004 and 2005, Canada's total exports shipped by trucks totalled $186.7 billion and $188.8 billion, respectively. The U.S. was the final destination for the quasi totality of these exports by trucks. On the import side, the picture is more blurred, as the mode at the port of clearance is not necessarily the same as the mode at the port of arrival.[12] As a result, imports by trucks were slightly overestimated at $219.9 billion in 2004 ($215.6 billion in 2005). The U.S. was the country of origin for commodities shipped by truck amounting to $162.6 billion in 2004 and $164.5 billion in 2005.

Commodities and Trucking Flows

In domestic trade, the main commodity groups carried were construction materials valued at $140.7 billion (24 per cent of total domestic goods trade in 2002), almost exclusively in the intraprovincial sector. Agricultural products ranked second at $100.9 billion (17 per cent), followed distantly by primary metals, metal and mineral products ($52.4 billion) and energy products ($51.8 billion) each with a similar share of nine per cent. In both sectors (intraprovincial and interprovincial), Ontario, Quebec, Alberta and British Columbia dominated, capturing almost 80 per cent of all domestic trade activity for goods. The main interprovincial flow was the Quebec/Ontario route (both directions) accounting for $41 billion worth of commodities or 30 per cent of total interprovincial trade. The Alberta/Ontario route (both directions) ranked second at $16.6 billion (12 per cent). Tables A7-9 to A7-12 in the Addendum provides more details on commodity groups and interprovincial flows.

At the international level, five commodity groups represented almost 80 per cent of total exports by trucks in 2004. These were automobiles and transport equipment ($42.1 billion), machinery and electrical equipment ($34.4 billion), other manufactured products ($34.4 billion), plastic and chemical products ($18.2 billion) and base metals/articles of base metal ($17.6 billion). The same commodities dominated in similar proportion in 2005. On the import side, the same five groups captured almost 88 per cent of total imports reported as truck-related. Machinery and electrical equipment ranked first accounting for $64.1 billion in 2004, followed by automobiles and transport equipment ($45.9 billion), other manufactured products ($33.1 billion), plastics and chemical products ($23.9 billion) and base metals/articles of base metal ($15.9 billion). The picture was similar in 2005.

10 Quarterly For-hire trucking (Commodity Origin/Destination) survey (TOD); and other Statistics Canada surveys on the marine, rail and air modes.

11 Canadian-domiciled long-distance for-hire trucking firms with annual revenues of $1 million or more.

12 In the case of imports, the mode of transport represents the last mode by which the cargo was transported to the port of clearance in Canada and is derived from the cargo control documents of customs. This may not be the mode of transport by which the cargo arrived at the Canadian port of entry in the case of inland clearance. This may, therefore, lead to some underestimation of Canadian imports by the marine and air transport modes.

TABLE 7-16: TWENTY LARGEST BORDER CROSSINGS FOR TRUCKS, 2001 – 2005

(Millions of truck movements)

2005 Rank	*Port*	*Province*	*2001*	*2002*	*2003*	*2004*	*2005*	*2005 share (per cent)*
1	Windsor - Ambassador Bridge	ON	3.24	3.32	3.25	3.37	3.45	25.8
2	Sarnia - Blue Water Bridge	ON	1.47	1.56	1.61	1.71	1.78	13.4
3	Fort Erie - Peace Bridge	ON	1.35	1.31	1.27	1.27	1.26	9.4
4	Niagara Falls - Queenston-Lewiston Bridge	ON	1.00	1.05	1.01	1.01	0.96	7.2
5	Lacolle	QC	0.79	0.78	0.77	0.78	0.76	5.7
6	Pacific Highway/Douglas	BC	0.79	0.78	0.75	0.75	0.73	5.5
7	Lansdowne - Thousand Island	ON	0.50	0.53	0.49	0.49	0.46	3.4
8	Emerson	MB	0.37	0.41	0.41	0.40	0.40	3.0
9	Windsor - Detroit-Windsor Tunnel	ON	0.32	0.32	0.33	0.29	0.31	2.3
10	Philipsburg	QC	0.30	0.31	0.32	0.34	0.30	2.2
11	Rock Island	QC	0.26	0.25	0.27	0.28	0.26	2.0
12	Coutts	AB	0.29	0.25	0.23	0.24	0.25	1.9
13	Aldergrove	BC	0.16	0.16	0.20	0.21	0.20	1.5
14	Woodstock	NB	0.16	0.17	0.15	0.15	0.14	1.1
15	North Portal	SK	0.13	0.12	0.12	0.12	0.13	1.0
16	Sault Ste. Marie	ON	0.13	0.13	0.12	0.13	0.13	0.9
17	Armstrong	QC	0.11	0.12	0.12	0.12	0.12	0.9
18	Huntingdon	BC	0.14	0.18	0.13	0.15	0.11	0.8
19	Osoyoos	BC	0.06	0.07	0.10	0.09	0.10	0.8
20	Milltown	NB	0.08	0.07	0.08	0.08	0.09	0.6
	Top-20 crossings		**11.64**	**11.89**	**11.72**	**11.97**	**11.93**	**89.4**
	All other crossings		**1.54**	**1.57**	**1.47**	**1.48**	**1.41**	**10.6**
	Total		**13.18**	**13.46**	**13.20**	**13.45**	**13.33**	**100.0**

Note: Two-way traffic volumes were estimated by doubling one-way flows northbound into Canada.

Source: International travel section, Statistics Canada and other unpublished statistics

TABLE 7-17: TWENTY LARGEST BORDER CROSSINGS FOR CARS/OTHER VEHICLES, 2001 – 2005

(Millions of truck movements)

2005 Rank	*Port*	*Province*	*2001*	*2002*	*2003*	*2004*	*2005*	*2005 share (per cent)*
1	Windsor - Ambassador Bridge	ON	7.89	7.13	6.39	6.26	5.94	10.3
2	Fort Erie - Peace Bridge	ON	6.67	6.65	5.84	5.51	5.06	8.8
3	Windsor - Detroit-Windsor Tunnel	ON	7.62	6.87	6.34	5.77	4.99	8.7
4	Pacific Highway/Douglas	BC	5.49	4.76	4.71	4.86	4.92	8.6
5	Sarnia - Blue Water Bridge	ON	4.13	3.88	3.69	3.71	3.54	6.2
6	Niagara Falls - Queenston-Lewiston Bridge	ON	3.28	3.20	3.03	3.12	3.15	5.5
7	Niagara Falls - Rainbow Bridge	ON	4.17	4.10	3.32	3.28	3.13	5.4
8	Cornwall	ON	2.05	2.09	2.08	2.07	2.03	3.5
9	Lacolle	QC	1.90	1.96	1.88	1.87	1.69	2.9
10	Sault Ste. Marie	ON	2.07	1.82	1.60	1.56	1.68	2.9
11	St. Stephen	NB	1.60	1.33	1.37	1.46	1.53	2.7
12	Edmundston	NB	1.34	1.33	1.37	1.42	1.43	2.5
13	Boundary Bay	BC	1.48	1.35	1.44	1.45	1.38	2.4
14	Huntingdon	BC	1.31	1.15	1.12	1.12	1.11	1.9
15	Lansdowne - Thousand Island	ON	1.16	1.18	1.11	1.13	1.10	1.9
16	Aldergrove	BC	1.16	1.09	1.06	1.07	1.01	1.7
17	Rock Island	QC	1.16	1.10	1.04	1.05	0.99	1.7
18	Milltown	NB	0.76	0.71	0.73	0.79	0.82	1.4
19	Philipsburg	QC	0.88	0.88	0.82	0.82	0.80	1.4
20	Fort Frances	ON	0.77	0.77	0.78	0.74	0.73	1.3
	Top-20 crossings		**56.90**	**53.36**	**49.71**	**49.06**	**47.01**	**81.7**
	All other crossings		**11.42**	**10.94**	**10.46**	**10.52**	**10.53**	**18.3**
	Total		**68.32**	**64.31**	**60.17**	**59.57**	**57.53**	**100.0**

Note: Two-way traffic volumes were estimated by doubling one-way flows northbound into Canada.

Source: International travel section, Statistics Canada and other unpublished statistics

The busiest transborder route was the Ontario/U.S. central region[13] (both directions) accounting for $171.5 billion in 2004 or 31 per cent of total Canada/U.S. trade, followed by the Ontario/U.S. south region ($69.3 billion) and the Ontario/U.S. northeast region ($51.5 billion). Almost 80 per cent of shipments in these three routes were carried by trucks. The same trends prevailed in 2005. Tables A2-5 and A7-12 in the Addendum provide more information on the routes and commodities carried.

Canada–U.S. Border Crossing Activity

Heavy truck activity across the Canada–U.S. border fell about one per cent in 2005, to 13.3 million two-way trips, the average level since 2001. Crossing activity remains below the 2000 peak for the fifth straight year. Car crossings were down another 3.4 per cent from last year to 57.5 million trips, the lowest level since 1986.

Tables 7-16 and 7-17 compare the level of heavy truck activity at the top 20 border crossings between 2001 and 2005.

PRICE, PRODUCTIVITY, FINANCIAL PERFORMANCE

Trucking Industry[14]

In 2003, the revenues of trucking firms rose by 6.7 per cent to reach $21 billion, just below the annual average of 6.9 per cent from 1998 to 2003. Trucking rates increased on average by 2.9 per cent and output grew by an estimated 3.1 per cent, compared with a 4.3 per cent annual increase over the 1998 – 2003 period. Both domestic and transborder traffic rebounded from their 2002 decreases, jumping 0.8 and 4.5 per cent, respectively.

Total factor productivity in the trucking industry fell by 0.9 per cent in 2003. This second consecutive decrease in productivity has reduced annual productivity gains to less than one per cent over the 1998 – 2003 period. Unit costs rose by four per cent in 2003, higher than the 2.4 per cent average annual increase since 1998.

In 2003, the average industry operating ratio reached 94.9 per cent, slightly higher than the average ratio of 94.4 for the 1998 – 2002 period.

Urban Transit Systems

Autonomous revenues (excluding subsidies) of urban transit carriers rose by 6.2 per cent in 2004. Quebec carriers registered the strongest growth, at 8.5 per cent, despite a 1.2 per cent decline in passengers carried. The increase was achieved through a 10 per cent increase in average fares and a 1.7 per cent rise in non-passenger output. Overall, total transit output in Canada increased by 2.7 per cent while prices rose by 3.4 per cent.

Transit systems continue to be among the most labour- and capital-intensive of all transport industries, with these two factors of production representing 51 and 25 per cent, respectively, of total costs.

In 2004, total factor productivity of transit systems decreased by 0.9 per cent. Capital productivity rose by 0.2 per cent while labour productivity declined by 0.1 per cent. Energy efficiency declined by 4.3 per cent while the productivity of other variable factors of production fell by 3.9 per cent.

Transit costs per unit of output rose by 2.2 per cent in 2004. Since 1998, total unit cost has increased by 19.4 per cent, an annual average of 3.0 per cent.

The total cost of transit systems was estimated at $5.3 billion in 2004. Cost recovery was measured at 46.4 per cent, slightly above the level of the previous three years. Annual operating subsidies rose to $1.9 billion, five per cent above the 2003 figures and 16 per cent above the 2001/02 average. Capital subsidies reached $874 million, $20 million less than the previous year.

Cost recovery ratios for 2004 were 49.7 per cent in Ontario, 44.6 per cent in Quebec, 42.9 per cent in British Columbia and 36.5 per cent in Alberta. Urban transit operations in the rest of Canada, which account for only five per cent of overall transit revenues, consistently show a higher cost recovery ratio. This ratio has been hovering around 50 per cent since 1996 and was at 50.6 per cent in 2004. Table 7-18 provides details on the performance of transit systems for selected regions in 2004.

TABLE 7-18: SELECTED PROVINCIAL SYSTEMS INDICATORS FOR URBAN TRANSIT, 2004

	Quebec	*Ontario*	*Alberta*	*British Columbia*	*Canada*
Price levels (Canada = 100)	78.1	118.3	80.5	107.1	100.0
Total unit cost (Canada = 100)	81.2	110.4	102.4	115.9	100.0
Cost recovery (in %)	44.6	49.7	36.5	42.9	46.4
Revenue shortfall per passenger ($)	1.46	1.86	2.16	2.11	1.77

Source: Transport Canada, based on Statistics Canada and CUTA information

13 The U.S. Central region includes states in the Great Lakes area, i.e., Michigan, Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

14 This section is the same as the one found in the report of last year. More recent data to update the section was not available.

MARINE TRANSPORTATION 8

The value of marine exports increased by 13.4 per cent in 2004, mainly to the United States, Japan, China and the United Kingdom. The value of imports increased by six per cent.

MAJOR EVENTS IN 2005

LEGISLATIVE AND REGULATORY CHANGES AND INITIATIVES

CANADA SHIPPING ACT AND REGULATORY REFORM UNDER THE *CANADA SHIPPING ACT, 2001*

The *Canada Shipping Act, 2001* (CSA 2001) received Royal Assent on November 1, 2001. Until the necessary regulations are in place, however, the existing *Canada Shipping Act* and its related regulations will remain in full force and effect.

The new regulations are being dealt with in two phases. Phase 1, expected to be completed early in 2007, will see more than 50 existing regulations reformed and streamlined into an estimated 22 regulations. At that time, the CSA 2001 will come into force. Phase 2 will see the remaining regulations modernized so they are consistent with the requirements of the new Act.

The CSA is the main legislation overseeing personal safety and environmental protection in Canada's marine sector. It applies to Canadian vessels operating anywhere and to foreign vessels operating in Canadian waters. In 2003, CSA legislative and regulatory responsibilities relating to pleasure craft safety, marine navigation services, pollution prevention and response, and navigable waters were transferred from Fisheries and Oceans Canada to Transport Canada.

With these added responsibilities, Transport Canada conducted cross-country public consultations on the Phase 1 regulations throughout 2004 and 2005. The bulk of these consultations occurred at the spring and fall regional and national meetings of the Canadian Marine Advisory Council (CMAC). In addition, several of the individual projects conducted outreach sessions with stakeholders at strategic locations across Canada. The Regulatory Reform Project had for the most part completed its formal consultation phase by the end of 2004, and most projects are now in the legal drafting phase. A few individual projects continued consultations during 2005.

Some of the 22 streamlined regulations to come out of Phase 1 include Administrative Monetary Penalties, Ballast Water and Control Management, Cargo, Fumigation and Tackle, Collision, Competency of Operators of Pleasure Craft, Environmental Response, Fire Safety, Fishing Vessel Safety, Heritage Wreck, Load Lines, Marine Personnel, Prevention of Pollution from Ships and for Dangerous Chemicals, Small Vessels, Vessel Clearance, Vessel Operation Restrictions, and Vessel Registration and Tonnage. Added to the original list of Phase 1 regulations are Vessel Certificates, Safety Management, Ships Registry and Licensing Fees Tariff, and Appeal from Detention Orders, along with three minor regulations that need to be repealed. For more information on the CSA 2001 Regulatory Reform Project, visit www.tc.gc.ca/marinesafety/menu.htm.

MARINE LIABILITY ACT

MARITIME LAW REFORM DISCUSSION PAPER

In May 2005, Transport Canada released the Maritime Law Reform Discussion Paper. This paper proposes a number of amendments to the *Marine Liability Act* as well as the modernization of outdated concepts in maritime law.

The proposed amendments include the possible ratification of four international conventions: the 1976 Convention on the Limitation of Liability for Maritime Claims, as amended by its 1996 Protocol; the Supplementary Fund Protocol of 2003 of the International Oil Pollution Compensation Fund Convention (this would increase the available compensation for oil pollution from

$405 million to $1.5 billion per incident); the 2001 Convention on Bunker Oil Pollution Damage; and the 1996 Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (this would provide a new liability regime for carriage of such substances). The proposed amendments also include a proposal to remove from the passenger liability regime (Part 4 of the MLA) certain types of vessels used mainly in adventure tourism.

Marine Atlantic Advisory Committee

In November 2004, an advisory committee was formed to study a wide range of issues and identify long-term strategies for stabilizing Marine Atlantic's ferry service operations. The Committee held consultations with stakeholders and with representatives from Marine Atlantic in January 2005. In March 2005, the Committee provided the Minister of Transport a final report covering all aspects of its mandate and including 41 recommendations for improving the ferry service. The recommendations were in the areas of operations and service, fleet configuration and renewal and long-term funding and pricing strategies. There were three key recommendations: eliminate the drop-trailer service; plan for a three-vessel fleet composed of larger ferries purpose-built for the service; and based on estimated operational savings (over 14 years) from these two initiatives, roll-back rates by 15 per cent. On November 15, 2005, the Government of Canada announced its decision to continue the drop-trailer service provided that the level of cost recovery for the service is acceptable; the service is handled more efficiently by Marine Atlantic; and the trucking industry improves efforts to work with Marine Atlantic on initiatives to better manage traffic demand. Transport Canada continues to work with Marine Atlantic to develop a long-term strategy that will consider important elements such as rates structure, governance and fleet requirements.

National Marine and Industrial Council

The National Marine and Industrial Council (NMIC) was established in 2004. The industry's primary objective for this industry–government forum is to raise the profile of Canada's marine transportation as an economic generator. The Council also provides a venue for discussing marine policy issues with leaders from the marine industry and deputy ministers of departments that have direct influence on the marine transportation sector. Key issues being discussed cut across several federal departments and include competitiveness, security, innovation and infrastructure.

The Council is made up of industry executives, including cargo shippers, domestic and international shipowners, port operators and marine service providers from across the country, and federal government senior officials, including the deputy ministers of Transport Canada, Industry Canada, Fisheries and Oceans Canada, International Trade Canada and Environment Canada. The inaugural meeting of the NMIC took place on May 31, 2004. The Council holds meetings bi-annually.

Shortsea Shipping for Increasing Intermodality

Following the successful 2004 National Marine Conference on Shortsea Shipping in Montreal, Transport Canada continued efforts in 2005 to promote shortsea shipping opportunities as a means to help alleviate congestion, strengthen intermodalism, improve utilization of waterway capacity, facilitate trade and reduce greenhouse gas emissions — in other words, to increase the efficiency of the overall transportation system.

Transport Canada continued to pursue the promotion of shortsea shipping through a 2003 Memorandum of Cooperation with the United States and Mexico. The memorandum intends that North American transportation authorities would cooperate in exchanging information and experiences on shortsea shipping. Transport Canada also undertook several studies and initiatives to understand and assess the opportunities, challenges, policy considerations and overall state of shortsea shipping in Canada, whether on the west or east coast, the St. Lawrence Seaway, the Great Lakes or in the Arctic. Furthermore, Transport Canada continued to be an active member of the Quebec Shortsea Shipping Roundtable. This roundtable works to create a clearinghouse for information and expertise, communicate information to stakeholders, and promote and support shortsea shipping projects.

Canada Marine Act

In June 2005, Bill C-61, "An Act to amend the *Canada Marine Act* (CMA) and other Acts," was introduced in Parliament. The proposed amendments follow the tabling of a June 2003 report pertaining to the first five years of operation of the Act. C-61 fine-tuned the existing provisions and provided Canada Port Authorities (CPAs) with access to federal funding for certain infrastructure projects (to a capped amount) and national security. Bill C-61 was complemented by other policy initiatives aimed at maximizing the efficiency of the marine sector and strengthening its role in Canada's international trade. With the dissolution of the 38th Parliament in November 2005, Bill C-61 died on the order paper.

INFRASTRUCTURE

Canada's Ports and Harbours System

Within the national transportation system, Canada's ports and harbours provide crucial links between economic activities and otherwise inaccessible markets. They are vital gateways to the rail and road networks.

The National Marine Policy, announced in December 1995, has been realized through the *Canada Marine Act* (CMA). With that announcement, the federal government began reorganizing Canada's ports system. Since then, it has implemented a restructuring process to commercialize marine infrastructure. To facilitate this restructuring, three categories of ports are specified by the National Marine Policy: (1) Canada Port Authorities (CPAs), (2) regional/local ports and (3) remote ports.

Under the National Marine Policy, 19 major Canadian ports were deemed vital to Canada's domestic and international trade. The Canada Port Authorities, established under the CMA, have also met criteria for financial self-sufficiency, diversified traffic and intermodal connections. Independently managed, the CPAs are essential links in Canada's domestic and international trade. The 19 CPAs are: Fraser River, Vancouver, North Fraser, Nanaimo, Prince Rupert, Port Alberni, Thunder Bay, Windsor, Toronto, Hamilton, Montreal, Quebec City, Trois-Rivières, Saguenay, Sept-Îles, Saint John, St. John's, Belledune and Halifax. These include former Canada Ports Corporation's major divisional ports and former harbour commissions. The Port of Oshawa is the last harbour commission operating in Canada.

CPAs were incorporated by Letters Patent for the purpose of operating a particular port. They act as agents of the Crown under the CMA for certain purposes. As such, they have the authority to engage in activities related to shipping, navigation, transport of passengers and goods, and handling and storing of goods. They can also engage in other activities that the Letters Patent deem necessary to support port operations. With respect to these activities, however, they are not agents of the Crown.

Although CPAs were granted the right to operate and manage a port, they cannot issue shares. They may be given Crown land to operate and manage, but not to own. They may, however, acquire and own land in their own name. They may also establish fair and reasonable fees for use of the facilities or services provided at the port as a way of covering costs. CPAs may not discriminate among users of the port, but they may differentiate in their fees and services based on the volume or value of goods or on any basis generally accepted commercially.

CPAs must also demonstrate public accountability. As set out in the CMA, each board of directors includes seven to eleven members. (All CPAs have seven members, except for Vancouver, which has nine). Each board appoints the officers of the CPA. A majority of each board is appointed in consultation with port users. In addition, the federal and respective provincial and municipal governments each appoint one director.

Most Transport Canada-owned ports are regional/local ports. These range from ports with a high volume of regional and local traffic to smaller ports with little or no commercial activity. In accordance with the Port Divestiture Program, the federal government is terminating its operational and ownership interests in regional/local ports. This means transferring them to other federal departments, provincial governments or local interests. Local interests include municipal authorities, community organizations and private interests. For remote ports serving as the primary transportation portals for isolated communities, Transport Canada will retain control and administration unless local stakeholders are willing to assume ownership of them.

Port Divestiture

The Port Divestiture Program was originally scheduled to end on March 31, 2002. As part of the federal government's efforts to modernize Canada's marine system, however, the program was extended by Cabinet until March 31, 2006. As such, Transport Canada will continue to transfer ownership and operations of its regional/local ports to local communities. Local accountability will help create a more effective and efficient port system by instilling commercial discipline and efficiency. In addition, greater autonomy will enable ports to apply more effective business principles while promoting employment and economic growth. Once ports have been transferred, Transport Canada ends its operational role. This includes directly enforcing regulations, collecting user fees, and monitoring port operations.

Before the National Marine Policy came into force, Transport Canada controlled and administered 549 public ports and port facilities. Of these, 462 have been transferred, deproclaimed or demolished, or have had Transport Canada's interests terminated. As of December 31, 2005, 87 sites remained under Transport Canada control. In addition, there are 20 sites where facilities have been transferred but cannot be deproclaimed because the harbour bed has not yet been divested. For detailed port information, see tables A8-1 and A8-2 in the Addendum.

Table 8-1 summarizes the classification of ports as of December 31, 2005.

As of December 31, 2005, 65 sites had been transferred to other federal departments and 40 had been transferred to provincial governments. Another 120 sites were divested to local interests. In addition, 26 sites have either been demolished or have had Transport Canada's interest terminated through lease or licence terminations.

Since the Ports Divestiture Program began, 271 public ports have been deproclaimed. Of these, archival research identified another 26 harbours beyond the original 549 port sites listed in the National Marine Policy. Transport Canada continues to administer 61 regional/local ports and 26 remote ports nationwide.

Financial Performance

For detailed financial information, see Addendum tables A8-3 to A8-6.

In 2004, the operating revenues of the CPAs totalled $310 million, up 3.4 per cent from 2003. Vancouver and Montreal accounted for 55 per cent of this amount. Twelve of the 19 CPAs reported greater operating revenues, ranging from increases of $0.05 million to $1.9 million. Montreal and Quebec City had the greatest increases, at $1.9 million (2.8 per cent) and $1.7 million (12.8 per cent), respectively.

Operating expenditures increased by $10.6 million, with individual increases ranging from $0.02 million to $4.1 million. Only five CPAs reported lower expenses, ranging from $0.03 million to $1.0 million decreases. The ports reported $11.3 million in total gross revenue charges, up 3.7 per cent from 2003. The port authorities spent $110 million on capital projects in 2004.

The ratio of operating expenditures as a percentage of operating revenues for the CPAs averaged 84 per cent in 2004. Individual ratios ranged from 60 per cent to 180 per cent. The overall return on assets was 3.4 per cent.

In 2004, the net income of all port authorities totalled $48 million. Six CPAs reported higher net incomes ranging from $0.02 million to $3.2 million increases, while four reported net losses ranging from $0.2 million to $4.8 million.

TABLE 8-1: PORT CLASSIFICATIONS AS OF DECEMBER 31, 2005

	Federal	*Provincial*	*Local*	*Total*
Federal Agency Ports				
Canada Port Authorities	19	N/A	N/A	19
Harbour Commissions	1	N/A	N/A	1
Ports Operated by Transport Canada				
Regional/Local	61	N/A	N/A	61
Remote	26	N/A	N/A	26
Ports Transferred[1]				
From Transport Canada	65	40	120	225
Status of other former Transport Canada Ports				
Demolished	8	N/A	N/A	8
Interests terminated	18	N/A	N/A	18
Deproclaimed[2]	211	N/A	N/A	211

Note: N/A = Not available

Additional detailed information on ports is presented in tables A8-1 and A8-2 in the Addendum. This includes summaries of the provincial distribution of the ports Transport Canada administered from 1996 to 2005 and the divestiture status of regional/local and remote ports on a regional basis.

1 Includes 18 sites where facilities have been transferred but harbour bed has not yet been deproclaimed, 64 sites that were transferred to Fisheries and Oceans Canada and one site that was transferred to Health Canada.

2 Public harbours deproclaimed between June 1996 and March 1999.

Source: Transport Canada

Based on some preliminary data, tonnage handled at CPAs increased from 228 million tonnes in 2003 to 237 million tonnes in 2004. Five CPAs accounted for 69 per cent of total cargo by volume: Vancouver (31 per cent), Saint John (11 per cent), Montreal (10 per cent), Quebec City (9 per cent) and Sept-Îles (7 per cent). The revenues per tonne decreased from $1.34 in 2003 to $1.31 in 2004, while expenses per tonne remained the same at $1.1 for 2003 & 2004.

Transport Canada's Port Programs incurred a total net loss of $42.7 million in fiscal year 2004/05. This total was derived from $13.6 million in gross revenues minus $26.9 million in expenses, $11.6 million in capital expenditures and $17.8 million in grants and contributions for port divestiture transfers. For details, see Table A8-6 in the Addendum.

Port Traffic

Preliminary data indicate that Canada's ports handled approximately 456 tonnes of cargo in 2004, up about three per cent over 2003. Statistics Canada data was unavailable for 2004. Therefore, these estimates were derived from CPA sources and historical data.

Preliminary data from CPA Web sites shows that CPA ports handled approximately 237 million tonnes of cargo in 2004, representing 52 per cent of total cargo.

Figure 8-1 shows estimated traffic shares by port groups in 2004.

FIGURE 8-1: TRAFFIC SHARES BY PORT GROUPS, 2004

1 "Other" ports represents locations owned and operated by Fisheries and Oceans Canada, provincial and municipal governments, or private facilities.

Source: Statistics Canada

The 2004 tonnage breakdown for CPAs was: Vancouver, 73.6 million tonnes; Saint John, 26.3 million tonnes; Montreal, 23.6 million tonnes; Quebec, 21.8 million tonnes; Sept-Îles, 17.5 million tonnes; Halifax, 13.8 million tonnes; Fraser River, 13.9 million tonnes; Hamilton, 12.0 million tonnes; Thunder Bay, 8.5 million tonnes; Windsor, 5.3 million tonnes; North Fraser, 5.1 million tonnes; Prince Rupert, 4.4 million tonnes; Trois-Rivières, 2.3 million tonnes; Belledune, 2.2 million tonnes; Nanaimo, 2.0 million tonnes; Toronto, 1.9 million tonnes; St. John's, 1.6 million tonnes; Port Alberni, 1.0 million tonnes and Saguenay, 0.39 million tonnes.

Tonnage at Transport Canada ports is expected to remain steady based on the consistent revenues collected for 2004.

Small Craft Harbours Program

Fisheries and Oceans Canada

Within the Fisheries and Oceans Canada (DFO), the Small Craft Harbours Program (SCH) operates and maintains a national system of harbours to provide safe and accessible facilities for commercial fishers and recreational boaters. SCH's mandate is to keep harbours critical to the fishing industry open and in good repair. DFO's long-term objective is to retain a network of approximately 750 core, locally managed fishing harbours. All non-essential harbours (i.e., recreational harbours and fishing harbours with low or no activity) will be divested.

Fishing harbours

The SCH program has supported the creation of local harbour authorities (HAs) since the late 1980s. The harbour authorities manage the commercial fishing harbours within their own communities. Typically, they are local, non-profit organizations composed of fishers and other harbour users that lease the harbour from the SCH and provide services, maintenance and harbour management. As of December 30, 2005, harbour authorities managed 682 core fishing harbours across Canada. This amounts to about 91 per cent of the SCH program target. Usually, low or no-activity fishing harbours with a negligible impact on the commercial fishing industry or the community at large do not generate enough community interest to form harbour authorities. Such harbours will be divested or, if necessary, demolished. To date, 291 fishing harbours have been divested and 90 are in the final stage of divestiture.

Table 8-2 shows the number of fishing harbours remaining in the SCH portfolio as of December 31, 2005, by region and type of management.

TABLE 8-2: SCH FISHING HARBOURS BY MANAGEMENT TYPE AND REGION, AS OF DECEMBER 31, 2005

	Harbour Authorities	*Small Craft Harbours*	*Regional Total*
Pacific[1]	72	76	148
Central and Arctic	33	37	70
Quebec	51	32	83
Maritimes and Gulf	281	44	325
Newfoundland and Labrador	245	133	378
Total[2]	**682**	**322**	**1,004**

1 Totals include 47 mooring buoy sites in British Columbia.
2 There are no harbour authorities in Northwest Territories, Nunavut or the Yukon.

Source: Small Craft Harbours, Department of Fisheries and Oceans

Recreational Harbours

The SCH program intends to divest all its recreational harbours. Since 1994/95, 661 (or 78 per cent) of all SCH recreational harbours have been divested or are in the final stages of divestiture. The SCH disposal strategy was approved by Treasury Board in 1995. It permits disposals at a consideration of $1.00, subject to conditions. One condition is the requirement to maintain public access for at least five years. Prior to transfer, environmental assessments and reasonable repairs are completed to ensure facilities are in a safe condition before being transferred. Recipients are mainly municipalities, local non-profit organizations, First Nations or other federal departments. If no public body is interested in acquiring the facilities, they are offered at market value to the general public. As a last resort, when neither public nor private parties show interest in the facilities, they are demolished. The recreational harbour divestiture program is expected to continue for several more years.

Tables 8-3 to 8-5 summarize, by region, the status of the SCH recreational harbour divestiture program, recipients of harbours divested, and management type of remaining SCH harbour sites, respectively.

MARINE PILOTAGE

In Canada, navigation and/or ship handling of vessels through coastal and inland waterways in a safe and efficient manner is directed and controlled by regional pilotage authorities. There are four of these authorities in Canada: Atlantic (APA), Laurentian (LPA), Great Lakes (GLPA) and Pacific (PPA). Each responds to the particular requirements of marine traffic and to the geographic and climatic conditions of the waterways in its region.

TABLE 8-3: SCH RECREATIONAL HARBOUR DIVESTITURES BY REGION AS OF DECEMBER 31, 2005

	Fully Divested 1995 – 2004	*Fully Divested 2004/05*	*Final Stage of Divestiture*	*Total Divested*	*Remainder to be Divested*	*Regional Total*
Pacific	54	0	4	58	7	65
Central and Arctic	273	9	17	299	146	445
Quebec	204	11	9	224	29	253
Maritimes and Gulf	74	5	0	79	1	80
Newfoundland and Labrador	1	0	0	1	1	2
National Totals	**606**	**25**	**30**	**661**	**184**	**845**

Source: Small Craft Harbours, Fisheries and Oceans Canada

TABLE 8-4: RECIPIENTS OF DIVESTED SCH RECREATIONAL HARBOURS AS OF DECEMBER 31, 2005

	Province[1]	*Municipality*	*Private Sector*	*Other[2]*	*Total by Region*
Pacific	51	1	1	5	58
Central and Arctic	19	204	21	55	299
Quebec	3	186	2	33	224
Maritimes and Gulf	4	19	4	52	79
Newfoundland and Labrador	0	1	0	0	1
Total	**77**	**411**	**28**	**145**	**661**

1 Many of these properties were subject to provincial reversionary interests.
2 Refers to sites that have been transferred to local non-profit organizations, First Nations or other federal departments, as appropriate.

Source: Small Craft Harbours, Fisheries and Oceans Canada

TABLE 8-5: SCH RECREATIONAL HARBOURS BY MANAGEMENT TYPE, AS OF DECEMBER 31, 2005

	Managed Under Lease	*Small Craft Harbours*	*Other[1]*	*Total by Region*
Pacific	1	0	6	7
Central and Arctic	99	36	11	146
Quebec	3	26	0	29
Maritimes	0	1	0	1
Newfoundland and Labrador	0	1	0	1
Total	**103**	**64**	**17**	**184**

1 Refers to a variety of management and non-management situations. Some infrastructure, such as shoreline reinforcement or breakwaters, are largely stable and do not require ongoing management. Some facilities are part of a larger development (i.e., a marina, and managed as part of that development). In other cases, facilities no longer exist at the site and there is nothing to manage.

Source: Small Craft Harbours, Fisheries and Oceans Canada

The LPA, GLPA and PPA each experienced a deficit in 2005, resulting in a combined loss just under $4 million for the four pilotage authorities. However, this was less than the combined deficit reported last year. Table 8-6 shows the financial results for the four pilotage authorities in 2005.

TABLE 8-6: PILOTAGE AUTHORITY FINANCIAL RESULTS, 2005

(Thousands of dollars)

Pilotage Authority	*Revenues*	*Expenditures*	*Net income (loss)*
Atlantic Pilotage Authority (APA)	16,172	16,484	312
Laurentian Pilotage Authority (LPA)	56,505	59,819	(3,314)
Great Lakes Pilotage Authority (GLPA)	15,570	16,403	(833)
Pacific Pilotage Authority (PPA)	47,640	47,736	(96)
Total Pilotage Authorities	**135,887**	**140,442**	**(3,931)**

Source: Pilotage Authorities' 2005 draft annual reports

Using the average number of assignments per pilot as an indicator, overall, the efficiency of pilotage services continued to increase in 2005. The only exception was the APA where the average number of assignments per pilot stayed roughly the same as in 2004. The variations between the authorities and from year to year are related to traffic levels. Assignments increased for the LPA and PPA, but decreased for the APA and GLPA. Overall, there were more assignments in 2005 than in 2004.

Table 8-7 shows the number of assignments for each pilotage authority and the total for all pilotage authorities in 2005. For information on other years, see Table A8-8 in the Addendum.

TABLE 8-7: TOTAL PILOTAGE ASSIGNMENTS AND ASSIGNMENTS PER PILOT, 2005

Pilotage Authority	*Indicators*	*2005*
Atlantic (APA)	Pilots	54
	Total Assignments	11,690
	Assignments Per Pilot	216
Laurentian (LPA)	Pilots	174
	Total Assignments	22,197
	Assignments Per Pilot	128
Great Lakes (GLPA)	Pilots	59.5
	Total Assignments	6,443
	Assignments Per Pilot	108
Pacific (PPA)	Pilots	110
	Total Assignments	13,219
	Assignments Per Pilot	120
Total All Authorities	Pilots	397.5
	Total Assignments	53,549
	Assignments Per Pilot	135

Source: Pilotage Authorities' 2005 draft annual reports

CANADIAN COAST GUARD

The Canadian Coast Guard (CCG), an integral part of Fisheries and Oceans Canada, is a key national institution. Through the CCG Canada exerts its influence over its waters and coasts and delivers on public expectations of clean, safe, secure, healthy and productive waters and coastlines.

The CCG offers nine services.

Aids and Waterways Services supports marine safety, accessibility of waterways and environmental protection by maintaining approximately 17,300 navigational aids (short- and long-range) and by monitoring conditions of 75 shipping channels.

Marine Communications and Traffic Services monitors 450,000 vessel movements annually, provides marine distress/safety communications and coordination, conducts vessel screenings, regulates vessel traffic movement, and provides information systems and public correspondence around the clock on a year-round basis.

Icebreaking Services provides icebreaking and related services to facilitate safe and expeditious movement of maritime traffic through and around ice-covered Canadian waters. Related services include ice reconnaissance, harbour breakouts, information provision, routing assistance, etc.

Search and Rescue Services delivers search and rescue preparedness and response services to save and protect lives in Canada's maritime environment.

Environmental Response Services delivers environmental incident preparedness and response services that protect the marine environment under Canadian jurisdiction. It also provides response assistance to other countries under international agreements.

Maritime Security Services supports the Government of Canada's national security objectives by contributing to security on Canadian waterways.

Coast Guard College Services trains junior officers for Coast Guard service.

Fleet Services manages, operates and maintains CCG vessels and aircraft to help deliver civilian marine services in support of the Government of Canada's maritime priorities.

The CCG contributes to other Government of Canada objectives, including its maritime priorities, through delivery of civilian marine services (expertise, personnel and infrastructure such as vessels and aircraft) on behalf of other government departments or through support to agencies and organizations.

On December 12, 2003, changes were announced to the structure of the Government of Canada, including the creation of the CCG as a Special Operating Agency (SOA). In the same year, an Order in Council initiated the transfer of responsibilities for marine safety and security policies to Transport Canada from Fisheries and Oceans Canada. This affected how the Coast Guard was to conduct its remaining services. The design and operation of the CCG as an SOA was approved by Treasury Board on March 21, 2005, and the CCG officially became an SOA on April 1. The CCG is in fact the largest Special Operating Agency in Canada. As such, it will focus on providing essential and valuable services to mariners in Canadian waters.

CCG physical assets are worth approximately $5 billion. SOA status gives the Coast Guard greater flexibility in delivering more efficient and effective services as a national institution focussed on operations. It also allows the CCG to strengthen its relationship with the remainder of Fisheries and Oceans Canada, and deliver critical services to all clients, while playing an enhanced support role with the developing national security agenda.

Financial Profile

Table 8-8 shows the Coast Guard's financial results for the past four fiscal years. Results for 2005/06 reflect forecasted revenues and expenditures to fiscal year-end and will not be finalized until the end of the fiscal year. Refer to Table 8-9 for a breakdown of the Coast Guard's revenues and gross expenditures by sub-activity.

TABLE 8-8: CANADIAN COAST GUARD REVENUES AND EXPENDITURES, 2002/03 – 2005/06

(Millions of dollars)

	2002/03	*2003/04*[1]	*2004/05*[2]	*2005/06*[3]
Revenue	37.0	37.4	40.4	50.1
Gross Expenditures	498.0	504.5	543.3	548.0
Net Expenditure	**461.0**	**467.1**	**502.9**	**497.9**

1. 2003/04 figures do not include the Coast Guard College.
2. 2004/05 figures include amounts related to the Coast Guard College, which was transferred to the Coast Guard as of April 1, 2004.
3. Gross and Net Expenditures exclude Program Enablers.

Source: Fisheries and Oceans Canada

The Marine Navigation Services Fee was introduced by the Coast Guard in June 1996. It is intended to collect $27.7 million annually, including administrative costs.

To comply with the Government of Canada's cost recovery policy, several years ago, the Coast Guard began to recover the costs it incurs while providing services to industry.

A transit-based Icebreaking Services Fee was introduced by the Coast Guard in 1998. It is intended to collect $13.8 million annually, including administrative costs.

The Maintenance Dredging Services Tonnage Fee was established in September 1997. It was originally intended to temporarily cover the CCG's full costs for providing maintenance dredging services in the St. Lawrence Ship Channel. The Coast Guard and the commercial marine transportation industry continue to work toward a long-term arrangement under which the industry would assume responsibilities for these dredging services.

Table 8-9 breaks down the Coast Guard's 2005/06 revenues and expenditures for its main sub-activities. Both revenues and expenditures are forecasts only and will not be finalized until the end of the fiscal year.

St. Lawrence Seaway

The St. Lawrence Seaway is a unique inland waterway cutting to the industrial heartland of North America. It serves 15 major international ports and some 50 regional ports on both sides of the Canada–United States border.

The Seaway is made up of the Montreal–Lake Ontario (MLO) section, running from Montreal to Lake Ontario, and the Welland Canal section, joining Lake Ontario to Lake Erie. The MLO section has seven locks over 300 kilometres, five in Canada and two in the United States. The Welland Canal section has eight locks over 42 kilometres, all in Canada.

TABLE 8-9: CANADIAN COAST GUARD PLANNED REVENUES AND EXPENDITURES, 2005/06

(Millions of dollars)

	AWS	*MCTS*	*ICE*	*SAR*	*ER*	*College*	*Fleet*
Revenues	32.4	0.2	13.8	0	0	3.7	0
Gross Expenditures[1]	125.2	98.1	55.9	93.6	10.6	8.0	156.6
Net Planned Spending[1]	**92.8**	**97.9**	**42.1**	**93.6**	**10.6**	**4.3**	**156.6**

Note: AWS: Aids and Waterways Services; MCTS: Marine Communication and Traffic Services; ICE: Icebreaking Services; SAR: Search and Rescue Services; ER: Environmental Response Services; Fleet: Fleet Management Services.

1. Gross expenditure figures exclude Program Enablers.

Source: Fisheries and Oceans Canada

The locks and channels of the Seaway accommodate vessels up to 225.5 metres long, 23.8 metres wide and 8 metres in draft. Combined, these 15 locks gradually raise vessels 183.2 metres above sea level, the height of a 60-storey building.

Management, operation and maintenance of the navigational aspects of the Canadian portion of the Seaway are the responsibility of the St. Lawrence Seaway Management Corporation (SLSMC). The SLSMC was established as a not-for-profit corporation by Seaway users and other interested parties. It assumed management of the Canadian Seaway on October 1, 1998, under a long-term agreement with the federal government pursuant to the *Canada Marine Act*. The SLSMC charges tolls and generates other revenues to finance the operation and maintenance of the Seaway. When required, it also receives additional funds from the federal government to eliminate operating deficits.

In 2005, the Seaway handled an estimated 43.3 million tonnes. Once again, iron ore was the main commodity shipped, at 11 million tonnes. This total was 5.5 per cent higher than in 2004. Shipments of grain also increased, by 4.8 per cent, to total 9.8 million tonnes. Overall, bulk cargo flows were about the same as in 2004. Volumes of general cargo, including imported steel movements, declined by 23 per cent to 3.3 million tonnes, from 4.3 million tonnes the year before. Table 8-10 shows cargo movements for 2003 and 2004 while Table 8-11 shows traffic by commodity for the same years. For a longer time series, see tables A8-9 and A8-10 in the Addendum.

TABLE 8-10: ST. LAWRENCE SEAWAY CARGO MOVEMENTS, 2004 AND 2005

(Thousands of tonnes)

Year	*Montreal–Lake Ontario Section*	*Welland Canal Section*
2004	30,800	34,285
2005[1]	31,273	34,160

1 Figures are estimated as of December 31, 2005.

Source: St. Lawrence Seaway Management Corporation

TABLE 8-11: ST. LAWRENCE SEAWAY TRAFFIC BY COMMODITY, 2004 AND 2005

(Thousands of tonnes)

Year	*Grain*	*Iron Ore*	*General Cargo*	*Coal*	*Other*	*Total*
2004	9,322	10,459	4,252	4,230	15,203	**43,466**
2005[1]	9,773	11,032	3,264	3,701	15,513	**43,301**

Note: Combined traffic in the two sections of the Seaway.
1 Figures are estimated as of December 31, 2005.

Source: St. Lawrence Seaway Management Corporation

RATES AND TARIFFS

The SLSMC implemented a 1.72 per cent cargo toll and ship charge increase for the 2005 navigation season in both sections of the Canadian Seaway. This increase is in accordance with the management agreement between the SLSMC and the federal government, which stipulates annual tariff increases based on the lesser of the annual average percentage change in the Consumer Price Index or two per cent.

FINANCIAL PROFILE

In fiscal year 2004/05,[1] the Seaway generated $74 million in revenues from tolls and other sources. This was an increase over the $66.6 million generated in 2003/04. Toll revenues rose 12.1 per cent to $70.3 million, up from $62.7 million. This growth resulted from a combination of the two per cent mandatory toll increase and the significant increase in general cargo, with its higher tariff.

Also in 2004/05, Seaway operating expenses increased from $59.2 million to $60.2 million. These expenses are related to the management and operation of the Seaway infrastructure. Salaries, wages and benefits accounted for most of this total. Expenditures for the asset renewal program increased from $24.3 million to $32.1 million. These expenditures represent the cost of maintenance and major repairs of lock, canals, bridges, buildings and other infrastructure assets.

Table 8-12 shows the financial performance of the St. Lawrence Seaway from 2002/03 to 2004/05.

TABLE 8-12: ST. LAWRENCE SEAWAY FINANCIAL PERFORMANCE, 2002/03 TO 2004/05

(Thousands of dollars)

Year[1]	*Revenues*	*Expenditures*	*Excess of Revenues Over Expenses*	*Net Excess of Revenues Over Expenses*[2]
2002/03	66,815	84,394	(17,579)	(4,015)
2003/04	66,555	86,247	(19,692)	(3,087)
2004/05	74,005	98,439	(24,434)	(1,737)

1 April 1 to March 31.
2 Following contribution from Capital Trust Fund.

Source: St. Lawrence Seaway Management Corporation

1 Tolls in fiscal year 2004/05 are for traffic in the 2004 navigation season.

INDUSTRY STRUCTURE

A fleet of Canadian-flag operators, which provides domestic and transborder shipping services, is part of Canada's marine industry. International trade is served largely by foreign-flag operators calling at Canada's major ports.

Domestic Services

The majority of domestic shipments of bulk materials on the Great Lakes and along Canada's coastline is carried by the Canadian merchant fleet. By the end of 2005, the fleet, which is defined as self-propelled vessels of at least 1,000 gross tons[2] flying the Canadian flag, included 184 vessels and 2.4 million gross tons.

In 2005, the dry bulk fleet was made up of 61 vessels and included straight-deck bulkers dedicated mainly to grain transportation, and self-unloading vessels carrying various bulk commodities. Although these carriers are declining in number, they remain the backbone of the Canadian merchant fleet, accounting for 46 per cent of tonnage and 33 per cent of vessels in 2005. By comparison, while the number of tankers decreased from 35 in 1985 to 27 in 2005, their capacity share increased from 11 to 31 per cent of total gross tonnage, due to the addition of larger units. In the last 20 years, the capacity of ferries vessels has also increased (from 10 to 17 per cent of total gross tonnage).

At the domestic and international level, an extensive fleet of tugs and barges was also in operation. In 2005, the Canadian Transportation Agency estimated that the Canadian fleet of tugs and barges included 309 tugs (121,000 gross tons) and 835 barges and scows (905,000 gross tons). Approximately eight per cent of the tug population had tonnage greater than 1,000 gross tons and were used in offshore supply.

Table 8-13 shows the transport capacity of the Canadian-registered fleet by type of vessel in 1985, 1995 and 2005.

TABLE 8-13: CANADIAN-REGISTERED FLEET BY TYPE, 1985, 1995 AND 2005

	Gross tons (Thousands of tons)			*Number of vessels*		
Type of carrier	*1985*	*1995*	*2005*	*1985*	*1995*	*2005*
Dry bulk	1,812	1,300	1,088	109	74	61
Tankers	269	186	743	35	27	27
General cargo	82	91	105	19	15	17
Ferries	264	344	398	56	60	73
Other	97	33	38	6	7	6
Total	**2,524**	**1,955**	**2,373**	**225**	**183**	**184**

Note: Self-propelled vessels of 1,000 gross tons and over, including government owned ferries; excluding tugs used in offshore supply.

Source: Canadian Transportation Agency and Transport Canada

Eastern Canada

A fleet of dry bulk vessels (straight-deck and self-unloaders), tankers, general cargo and other vessels provides freight services in eastern Canada, including the Arctic. The three largest operators in the Great Lakes–St. Lawrence region are Algoma Central Corporation, Upper Lakes Group and Canada Steamship Lines. Seaway Marine Transport, a partnership of Algoma Central Corporation and Upper Lakes Group, manages the largest fleet of self-unloading vessels and gearless bulk carriers on the Great Lakes, St. Lawrence River and waters of eastern Canada.

Western Canada

On the west coast, a large tug and barge fleet provides domestic marine cargo services. While most operators are involved mainly in the domestic trades, some also trade between Canadian and U.S. ports.

Washington Marine Group controls several of the largest tug and barge operations, including: Seaspan International Ltd., the west coast's largest Canadian tug and barge operator; Cates Tugs; Norsk; and Kingcome Navigation Company. Rivtow Marine Inc. (a SMIT Company) is the second-ranked tugboat company in British Columbia.

2 Gross tonnage is the capacity in cubic feet of the spaces within the hull and of the enclosed spaces above the deck of a vessel, divided by 100. Thus 100 cubic feet of capacity is equivalent to one gross ton. However, capacity of a cargo carrying ship can also be expressed as dead-weight tonnes (1000 kg) required to immerse the hull at a particular draught (usually the maximum summer draught).

Northern Canada

In the western Arctic, Northern Transportation Company Limited (NTCL) is the main marine operator for the Mackenzie River Watershed (including the Mackenzie River and Great Slave Lake), the Arctic coast and islands, and Alaska. Utilizing a fleet of tugs and dual-purpose barges, NTCL's principal concerns are bulk petroleum products and dry cargo for communities, defence installations, and oil and gas exploration sites across the North. Working with the Government of the Northwest Territories, NTCL chartered a tug and tank barge in 2005 and brought petroleum products from Vancouver into the Western Arctic via Point Barrow.

In early 2001, responsibility for the eastern Arctic sealift for dry cargo and bulk fuel was transferred from the Canadian Coast Guard to the Government of Nunavut. Since then, all Government of Nunavut departments, corporations, agencies and contractors are required to use the contracted carrier. All other shippers using this service may ship under the same terms and conditions of the contract.

Under multi-year contracts, Nunavut Sealink and Supply Inc. (NSSI) and Nunavut Eastern Arctic Shipping (NEAS) continued to supply dry cargo sealift for the Eastern Arctic during the 2005 season. NSSI, a partnership between Transport Desgagnes and Arctic Cooperatives Ltd., served the seven Kivalliq communities and four Baffin Island communities. NEAS served the remaining 10 Baffin Island communities. The cargo was shipped from Montreal. As the option to extend the current Resupply Agreement to 2008 was not exercised in 2005, the current contract will expire in 2006. In December, the Government of Nunavut issued a request for proposals to secure marine transport for dry cargo beginning in the 2006 season.

The Woodward Group and NTCL, also with multi-year contracts, continued to deliver bulk fuel to the region. Utilizing two tankers travelling from Montreal and Churchill, the Woodward Group serviced the Baffin and Kivalliq regions in 2005. NTCL served the Kitikmeot region.

In addition to the Arctic sealift for Nunavut communities, resupply services to the Nunavik region are managed by the Quebec Ministry of Transportation. The James and Hudson Bay Cree are served out of Moosonee, with cargo originating in the Toronto region.

Beginning in 2004, Gardewine North, Hudson Bay Railway, The Port of Churchill and Moosonee Transportation Limited formed an alliance to provide sealift transportation to the Kivalliq. Moosonee Transport, located in James Bay, leased two barges from NTCL to resupply seven Kivalliq communities with dry cargo in July and August. Shippers are offered one single thru-rate for freight that encompasses a combination of truck, rail and marine transportation modes from either Thompson or Winnipeg (Manitoba) to the Kivalliq Region in Nunavut.

Mining operations in the Arctic regions also have vessels calling with supplies inbound and carrying zinc and lead concentrates to world markets outbound.

International Services

Marine freight transport at the international level includes bulk shipping and liner shipping.

Bulk shipping is the transport of large volumes of homogeneous cargo, often in shiploads. These services are provided under time charters (short-term and long-term contracts) and short-term "spot" or "tramp" contracts, generally for a specified number of voyages or days, or for a given quantity of cargo. The bulk shipping industry operates in a competitive market. Most of Canada's international bulk trade is carried under time charter arrangements on foreign-flag ships. Types of Canadian bulk cargoes include coal, iron ore, grain and potash.

Liner shipping is the transport of many individual consignments of cargo, at fixed prices for each commodity, on ships that operate regularly among ports of call on a scheduled basis. Liners often use standardized containers that can easily be transferred to trains or trucks for transport away from the port to carry the cargo. Large fleets of specialized container vessels operating on major trade routes around the world dominate liner shipping.

Shipping lines that call at Canadian ports provide liner services either independently or as members of shipping conferences that adhere to rates and/or conditions of service under a conference agreement. These practices are exempt from certain provisions of the *Competition Act* by the *Shipping Conferences Exemption Act* (SCEA), which was amended in 2002.

Independent shipping lines (also called non-conference carriers) contribute to a competitive international shipping industry by offering rates and services comparable with those of conference operators. Shipping lines sometimes choose to be a conference member on certain routes and an independent operator on others.

Most of the Canadian-controlled international fleet operates under foreign flags and employs foreign officers and crews.

Services Available To Canadian Shippers

In 2005, the Canadian Transportation Agency had 15 shipping conference agreements on file. Conferences are no longer required to file their tariffs with the Agency.

Five of the conferences operate between eastern Canada, northern Europe and the Mediterranean. Atlantic Container Line, Canada Maritime Ltd., Hapag-Lloyd Container Line, P&O Nedlloyd, Mitsui O.S.K. Lines and Orient Overseas Container Lines are among the major lines serving Canada as conference members.

Table 8-14 lists the 15 conference agreements on file with the Canadian Transportation Agency.

TABLE 8-14: SHIPPING CONFERENCES SERVING CANADA IN 2005

Canadian Continental Eastbound Freight Conference (E)
Canada–United Kingdom Freight Conference (E)
Continental Canadian Westbound Freight Conference (E)
Australia–Canada Container Line Association (E & W)
Mediterranean Canadian Freight Conference (E)
Canada/Australia–New Zealand Association Carriers (CANZAC) (E & W)
New Zealand–Canada Container Lines Association (E &W)
Canada Transpacific Stabilization Agreement (E & W)
Mediterranean North Pacific Coast Freight Conference (Canada) (W)
Canada/Australia–New Zealand Discussion Agreement (E & W)
Canada North Atlantic Westbound Freight Conference (E)
Canada Westbound Transpacific Stabilization Agreement (E)
Joint Mediterranean Canada Service Agreement (E)
Canadian Pacific/Latin American Freight Service (W)
Columbus/Maruba Working Agreement (W)

Notes: E = East Coast; W = West Coast

Source: Canadian Transportation Agency

Due to provisions on independent action under the SCEA, shippers benefit from competition between conference and non-conference carriers as well as from competition within conferences. Under these provisions, individual conference members are allowed to offer rates or services that differ from those found in the conference agreement. And, with the 2002 SCEA amendments, conference members now have to give only five, rather than 15, days' advance notice to other conference members if it intends to take independent action.

The 2002 SCEA amendments also allow a conference member to sign service contracts with shippers without having to disclose the contract terms and conditions to other conference members. It further allows a conference and a shipper to negotiate and sign confidential, conference-wide service contracts. These contracts must, however, be filed with the Canadian Transportation Agency in order to comply with the SCEA.

In 2005, the Canadian Transportation Agency accepted filings for only five service contracts,[3] down from 15 in 2004 and 25 in 2003. The contracts applied to both inbound and outbound traffic and to origins and destinations on both the east and west coasts of Canada.

PASSENGER TRANSPORTATION

Ferry Services

While most major ferry operators in Canada belong to the Canadian Ferry Operators Association (CFOA), Canada's ferry services are marked by wide differences in ownership, services and vessel type. Owners range from small, private operators to provincial governments and federal Crown corporations. Terminals and docking facilities are owned, leased and operated by ferry companies, municipalities, private companies and federal and provincial governments. Vessel types range from small cable ferries to large cruise-type vessels and fast ferries. Operations range from seasonal to year-round service.

For details on the major ferry services, see Addendum Table A8-11. In addition, most major ferry services have their own Web sites, routes and rates.

The 2004 traffic figures for all CFOA members (2005 figures not yet available) give a good indication of the relative size of CFOA operations. An estimated 38 million passengers and 16 million vehicles used Canadian ferry services in 2004. By far Canada's largest operator, the British Columbia Ferry Services Inc. carried over 22 million passengers and 8.6 million vehicles. British Columbia's Ministry of Transportation and Highways and Fraser River Marine Transportation, also operating inland ferry services, carried another 7.2 million passengers and 3.3 million vehicles. In Quebec, La Société des Traversiers du Québec carried 5.4 million passengers and 2.7 million automobile equivalent units (AEU).

In Atlantic Canada, federally supported ferry services are now limited to those provided by Marine Atlantic Inc., a federal Crown corporation, and Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée, both private-sector operators. On the west coast, the federal government provides an annual grant to British Columbia that is directed to BC Ferries.

3 Service contracts are pro-competitive provisions designed to maintain Canadian conference legislation in balance with Canada's major trading partners and support the recent trend toward a greater reliance on the marketplace.

In 2004, Marine Atlantic Inc. carried 417,550 passengers and 224,014 vehicles between Newfoundland and Labrador and Nova Scotia. Northumberland Ferries Ltd. and C.T.M.A. Traversier Ltée carried approximately 494,681 passengers and 207,135 vehicles. The remaining CFOA members, including provincial operators in Newfoundland and Labrador, Manitoba, Ontario and New Brunswick, accounted for approximately 3.5 million passengers and 1.3 million vehicle crossings.

Cruise Ship Industry

Large cruise vessels calling at Canada's ports are owned by foreign-based companies. Sailing under foreign flags, these vessels offer two basic types of extended cruises: the luxury cruise and the "pocket" cruise, which is distinguished by vessel capacity of typically less than 150 passengers.

After the Caribbean and the Mediterranean, Alaska cruises through British Columbia's scenic Inside Passage are the third most popular in the world. Vancouver and, increasingly, Seattle serve as "home ports," where passengers embark and disembark for these voyages. In 2005, Vancouver's share of this traffic experienced a 2.1 per cent decline from 2004 to 910,172 passengers. This decline is attributable mainly to the Port of Seattle's ability to attract cruise ships by opening new facilities, and to the impact of world events on travel and tourism.

In eastern Canada, luxury cruise vessels regularly depart New York and, travelling up the eastern seaboard, call in at Halifax, Charlottetown and other east coast ports before entering the St. Lawrence River and heading to Quebec City and Montreal. Shorter cruises also sail out of New York or Boston for Halifax, Saint John and other Atlantic ports. Many ports, including Saint John, have been investing in new facilities to serve cruise passengers.

Other Canadian ports also benefit from calls by cruise lines, including Victoria, British Columbia; St. John's, Newfoundland and Labrador; and Sydney, Nova Scotia.

Table 8-15 shows international cruise ship traffic at major Canadian ports in 2004 and 2005. Addendum Table A8-12 gives a longer time series.

TABLE 8-15: INTERNATIONAL CRUISE SHIP TRAFFIC AT MAJOR CANADIAN PORTS, 2004 AND 2005

(Passengers)

Year	*Vancouver*	*Montreal*	*Quebec City*	*Halifax*	*Saint John*
2004	929,976	43,385	71,280	212,834	138,622
2005 (prel.)	910,172	35,359	66,000	190,000	91,000

Source: Canada Port Authorities

FREIGHT TRANSPORTATION

At the time of publication of this report, 2004 data on marine origin-destination traffic was not available from Statistics Canada. This data is scheduled for release by Statistics Canada in July 2006. Therefore, many of the tables in this section could not be updated with 2004 traffic data. Where feasible, Transport Canada has estimated traffic based on data published on the Web sites of the various Canadian Port Authorities (CPAs).

The CPA's domestic and international traffic data for 19 ports was also used to estimate marine freight traffic handled at all Canadian ports in 2004. In addition, historical transborder, and overseas traffic data was correlated to the international marine trade data (on a value basis) in order to estimate the 2004 traffic flows for each sector. Finally, total traffic handled as well as flows were correlated with Canada GDP at basic prices (in 1997 dollars).

In 2004, estimated marine freight traffic totalled 387 million tonnes,[4] up 3.2 per cent from 2003. Estimated domestic flows[5] accounted for more than one fifth of this (69.4 million tonnes), up 1.6 per cent from the year before (68.3 million tonnes). Canadian-flag vessels carried an estimated 95.8 per cent (66.5 million tones) of domestic flows. In 2004, Canada–U.S. estimated traffic totalled 128.6 million tonnes, up 4.1 per cent from 2003, and "Other" international (deep-sea or overseas) traffic[6] increased by an estimated 3.1 per cent to 189 million tonnes.

4 Based on traffic flows rather than tonnage handled at Canadian ports (domestic volumes are not double counted).

5 Maritime traffic that originates from and is destined for a Canadian port. Flows count traffic volume only once, in contrast to port loadings and unloadings, for which, in the case of domestic traffic, the volumes get counted twice.

6 "Other" international traffic includes shipments to and from foreign countries other than the United States.

Table 8-16 shows Canada's 2002 to 2004 marine traffic statistics by sector. Addendum Table A8-13 covers the same information from 1986 to 2004.

TABLE 8-16: CANADA'S MARINE TRAFFIC STATISTICS BY SECTOR, 2002 – 2004

(Millions of tonnes)

	Flows			*Total*	*Total*
	Domestic	*Transborder*	*Overseas*	*Flows*	*Handled*
2002	62.6	114.3	168.4	345.4	408.1
2003	68.3	123.5	183.2	374.9	443.0
2004 (Est.)	69.4	128.6	188.9	386.9	456.3

Source: Statistics Canada, Shipping in Canada, Cat. 54-205
CPA ports web sites & Transport Canada traffic estimates for 2004

Table 8-17 compares the CPA port traffic (domestic and international) for 2003 versus 2004 as well as the 2004 estimated traffic handled at all the Canadian ports.

These 19 CPA ports handled more than half, 237 million tonnes, of all Canadian marine cargo in 2004. The balance of Canadian marine cargo represents 219 million tonnes of cargo handled by an equally important regional port system consisting of more than 200 ports located from the Atlantic to the Pacific to the Arctic.

MARINE TRADE

International trade data indicates that Canadian international marine trade in 2004 totalled $117.5 billion (excluding shipments via U.S. ports). This is up 9.3 per cent from 2003. Marine imports totalled $63.4 billion, while marine exports totalled $54.1 billion.

Table 8-18 shows the value of the marine exports/imports by country of origin/destination in 2004.

The value of imports increased by 6.0 per cent, notably with increased cargos inbound from China, Germany, Norway, and South Korea. The principal commodities imported from China were: textiles, leathers, and end products; furniture, major appliances, household equipment; and machinery and electronic equipment.

The value of exports also increased, by 13.4 per cent, mainly to the United States, Japan, China, and the United Kingdom. The principal commodities exported to the U.S. were petroleum products, and crude oil; for Japan and China it was forest products, grains and other food products.

Table 8-19 shows the value of the marine share of Canada's international trade in 2004.

TABLE 8-17: CANADA'S MARINE DOMESTIC & INTERNATIONAL TRAFFIC HANDLED FOR CPA'S AND OTHER PORTS, 2003 – 2004

Port	*Millions of tonnes 2003*	*Port per cent share*	*Millions of tonnes 2004*	*Port per cent share*	*Difference per cent (2004 vs. 2003)*
Vancouver	66.7	15.1	73.6	16.1	10.3
Saint John	26.1	5.9	26.3	5.8	0.7
Sept Îles/Pointe Noire	22.9	5.2	17.5	3.8	(23.3)
Montreal/Contrecoeur	20.8	4.7	23.6	5.2	13.7
Quebec/Lévis	20.2	4.6	21.8	4.8	8.2
Halifax	13.9	3.1	13.8	3.0	(0.3)
Fraser River[1]	13.7	3.1	13.9	3.0	1.5
Hamilton	11.0	2.5	12.0	2.6	8.9
Thunder Bay	8.3	1.9	8.5	1.9	3.5
North Arm Fraser River[1]	4.7	1.1	5.1	1.1	9.0
Windsor Ontario	4.6	1.0	5.3	1.2	14.0
Prince Rupert	4.3	1.0	4.4	1.0	2.8
Belledune	2.3	0.5	2.1	0.5	(7.6)
Nanaimo	1.9	0.4	2.0	0.4	3.0
Trois Rivières	1.9	0.4	2.3	0.5	24.6
Toronto	1.6	0.4	1.9	0.4	20.6
St. John's	1.6	0.4	1.6	0.4	0.6
Chicoutimi (Port Sagueny)	0.5	0.1	0.4	0.1	(18.2)
Port Alberni	1.0	0.2	1.0	0.2	2.3
Total CPA Ports	**227.9**	**51.4**	**237.3**	**52.0**	**4.1**
Other Ports[2]	**215.2**	**48.6**	**219.0**	**48.0**	**1.8**
Total Handled All Ports[2]	**443.0**	**100.0**	**456.3**	**100.0**	**3.0**

1 Due to double countings in domestic traffic for Fraser River & North Fraser River ports, use Statistics Canada data for 2003.
2 Estimated 2004 total traffic (456.3 millions) by Transport Canada, based on 2004 CPA traffic & historical market shares of the CPA ports.

Source: CPA ports Web sites data

TABLE 8-18: TOTAL MARINE IMPORTS/EXPORTS BY COUNTRY (2004 VS 2003)

(Billions of dollars)

Country of Export	*Exports*[1] *2003*	*2004*	*Percentage change*	*Country of Import*	*Imports 2003*	*2004*	*Percentage change*
United States	12.1	13.6	12.5	China, Peoples Republic	8.8	10.7	21.9
Japan	7.0	7.4	6.5	Japan	7.5	5.5	(26.8)
China, Peoples Republic	4.0	5.9	45.9	Germany	4.3	4.5	3.4
United Kingdom	2.5	2.8	10.0	Norway	3.1	3.9	26.8
Korea, South	1.6	1.8	11.6	Korea, South	2.9	3.4	20.5
Germany	1.7	1.7	(0.3)	United Kingdom	3.3	2.9	(14.2)
Italy	1.4	1.2	(13.3)	United States	3.2	2.7	(14.7)
France	1.3	1.3	(1.8)	Algeria	1.8	2.5	38.0
Netherlands	1.2	1.3	16.3	Italy	2.0	1.9	(7.5)
Norway	0.9	1.5	62.8	France	1.9	1.7	(11.0)
Belgium	1.1	1.2	8.6	Iraq	1.1	1.1	1.9
Taiwan	0.9	1.0	10.0	Taiwan	1.1	1.1	4.2
Hong Kong	0.6	0.8	24.7	Australia	1.1	1.1	3.0
Mexico	0.6	0.7	23.6	Saudi Arabia	0.9	1.2	40.0
Spain	0.5	0.8	42.5	Thailand	1.0	1.0	0.8
Other Countries	**10.3**	**11.1**	**8.5**	**Other Countries**	**16.0**	**18.3**	**14.3**
Grand Total (Exports)	**47.8**	**54.1**	**13.4**	**Grand Total (Imports)**	**59.8**	**63.4**	**6.0**

1 Including domestic exports and re-exports.

Source: Statistics Canada, Cat. 65-202 and 65-203; Special tabulations

TABLE 8-19: VALUE OF MARINE SHARE OF CANADIAN INTERNATIONAL TRADE, 2004

(Billions of Canadian dollars)

	Marine	*All Modes*	*Marine (per cent)*
Transborder			
Exports[1]	13.57	347.89	3.9
Imports	2.69	208.65	1.3
Total U.S.	**16.26**	**556.54**	**2.9**
Other countries			
Exports[1]	40.57	63.68	63.7
Imports	60.67	146.06	41.5
Total	**101.24**	**209.75**	**48.3**

Note: Table may not add up due to rounding.
1 Including domestic exports and re-exports.

Source: Statistics Canada, Cat. 65-202 and 65-203; Special tabulations

In 2004, marine traffic with the United States totalled $16.3 billion, based mainly on exports of 13.6 billion. Nonetheless, this represented only 2.9 per cent of total Canada–U.S. trade. The bulk of the traffic was handled by surface transport modes, such as trucking and rail.

Canada's marine trade with overseas countries (excluding the United States) totalled $101.2 billion in 2004. Exports accounted for $40.6 billion of this total, while imports accounted for $60.7 billion. In terms of value, marine transport accounted for 48 per cent of all overseas trade and was the dominant mode for shipping overseas freight.

Asia, western Europe and the United States are the major areas of exports/imports. The principal commodities exported to foreign countries in 2004 (including the United States) were forest products ($9.1 billion); gasoline/fuel oils ($7.2 billion) and grains ($5.3 billion). Imports consisted of crude petroleum (10.9 billion); textiles, leathers, and end products ($9.5 billion); automobiles ($6.3 billion); machinery ($5.3 billion); and other food products ($3.1 billion). For more information on the United States and overseas countries and principal commodities exported/imported by value, see Addendum Table A8-18.

AIR TRANSPORTATION 9

Passenger traffic reached record levels in 2005.
The cessation of JetsGo's operations in 2005 reversed the trend of low cost carriers' increasing domestic market share.

MAJOR EVENTS IN 2005

Canada–U.S. Open Skies

On November 10, 2005, the Governments of Canada and the United States (U.S.) further liberalized the 1995 Canada–U.S. Air Transport Agreement. The new provisions bring the 1995 agreement, which already provides for unrestricted air services between the two countries, into conformity with the U.S. Open Skies model.

The liberalized agreement was negotiated after extensive consultations with Canadian stakeholders and follows through on the pledge made by the Minister of Transport and the U.S. Secretary of Transportation in February 2005 that their departmental officials would discuss opportunities for further air liberalization. It also supports the Security and Prosperity Partnership of North America announced in March 2005.

The most significant amendments in the Open Skies agreement involve liberalizing Canadian air carrier access to the United States' third country markets and vice versa. Potential benefits include: greater access for Canadian passenger and cargo carriers to the large U.S. market as a platform from which to serve third countries; increased pricing flexibility for Canadian and U.S. carriers; more options for Canadian airports to attract U.S. carriers; and lower prices for consumers. These changes are scheduled to come into effect on September 1, 2006.

Airport Rent Policy Review

On May 9, 2005, Transport Canada announced that the Government of Canada would adopt a new rent policy for federally owned airports. Implementation began January 1, 2006. The new policy is expected to provide close to $8 billion in rent relief for Canada's airport authorities over the course of their existing leases and will also address inequities in the system. The new rent formula is based on modern commercial leasing principles and is in line with other rent formulas within the Government of Canada and the private sector. The formula uses a progressive scale based on airport gross revenues and provides an equitable rent for both the 21 rent-paying airports across Canada and the taxpayer.

Every National Airport System airport, small, medium or large, stands to benefit financially in every year they are to pay rent. It is anticipated that significant portions of the savings from present and future rent reductions will translate into lower airfares for passengers. In addition to the rent reduction, the government is also forgiving the remaining repayments owed from airport authorities for chattels, such as runway sweepers and snowblowers, worth a total of $21.9 million.

Small Airports Viability

The Council of Transport Ministers adopted a resolution at their September 2004 meeting stating that the viability of small airports is a shared responsibility. They asked Transport Canada to take the lead to define the mission of small airports and to identify options for future actions. A federal, provincial and territorial task group was created and met several times in 2005. The scope of the study done by the task force included all certified airports in Canada plus airports in the National Airports Policy that changed their status from a certified to a registered

airport since the policy was introduced in 1994 (a total of 362 airports). The information gathered on the airports was analyzed from an airport-system perspective. Both commercial and non-commercial missions of airports were considered. At the Council of Transport Ministers meeting in September 2005, ministers acknowledged progress achieved by the task force and recognized the complexity of the question of small airports viability. Ministers asked the task force to pursue its work with the objective of submitting a report at the Council of Transport Ministers meeting in the fall of 2006.

Electronic Collection of Air Transportation Statistics

The Electronic Collection of Air Transportation Statistics (ECATS) initiative, which began in April 2003, is now collecting operational air transportation statistics electronically from approximately 220 air carriers serving Canada. Originally expected to collect from 170 identified airlines, the first phase was extended to accommodate the data collection from these new carriers. By collecting the data this way, the initiative is bettering the timeliness of air transportation statistics to industry and government and reducing the reporting burden and associated costs to stakeholders. The initiative remains on schedule and within budget with a completion date of March 31, 2006. The second phase of ECATS began in April 2005 and is currently collecting air cargo information and Passenger Origin and Destination information. Planning for the collection of general aviation and other air carrier information in the second phase of ECATS is well underway. The completion target date for the second phase of ECATS is March 31, 2008.

Third-Party War and Terrorism Liabilities Indemnity

When international insurers withdrew previous levels of coverage following the events of September 11, 2001, the federal government began providing short-term indemnification for third-party war and terrorism liabilities for providers of essential aviation services in Canada. This indemnity remained in effect in 2005 for renewable periods of 90 days. Coverage remained unavailable at reasonable prices even though the insurance markets recovered slightly. Other countries provide similar support to their carriers.

Cape Town Convention and Protocol

On February 24, 2005, Bill C-4, also known as the *International Interests in Mobile Equipment (aircraft equipment) Act*, received Royal Assent.

This Canadian legislation seeks to implement the Convention on International Interests in Mobile Equipment and the Protocol to the Convention on International Interests in Mobile Equipment on Matters Specific to Aircraft Equipment, which was signed by Canada in 2004. The Convention and Protocol will facilitate and encourage international asset-based financing (i.e., financing using the value of equipment as security for payment).

On September 28, 2005, sections 11 to 18 of the Act were brought into force. These sections, which contain amendments to the *Bankruptcy and Insolvency Act*, the *Companies' Creditors Arrangement Act* and the *Winding-up and Restructuring Act*, are designed to provide aircraft operators with access to new sources of low-cost financing, thereby reducing financing costs.

The remainder of the Act will be brought into force upon Canada's ratification of the Convention and Protocol.

Jetsgo

On March 11, 2005, Jetsgo ceased operating all scheduled and non-scheduled air services and filed for bankruptcy protection with the Quebec Superior Court under the *Companies' Creditors Arrangement Act*.

Shortly after the company filed for bankruptcy, other Canadian carriers operating on the same city-pair routes that Jetsgo served stepped forward to provide assistance to stranded passengers and crews.

On May 13, 2005, after failing to restructure operations, Jetsgo filed for bankruptcy. Following Jetsgo's decision, Transport Canada cancelled the airline's air operator certificate effective May 14, 2005.

Preclearance

Before flights bound for the United States leave Canada, U.S. border preclearance allows U.S. preclearance officers to examine travellers and their goods for the purposes of customs, immigration, public health, food inspection and plant and animal health before flights depart from Canada for U.S. destinations. Through this system, travellers are treated as domestic passengers upon arrival in the U.S., where they enjoy shorter and easier connections to other U.S. cities, as well

as direct access to U.S. airports that have no customs and immigration inspection facilities. U.S. preclearance is currently in place at seven Canadian airports (Calgary, Edmonton, Montreal, Ottawa, Toronto, Vancouver and Winnipeg). Canada and the U.S. have also agreed to introduce preclearance at the Halifax airport, which is scheduled for October 2006.

In late 2005, officials representing the Canadian and U.S. governments gathered in Ottawa for the first meeting of the Preclearance Consultative Group (PCG), a bi-national working group mandated under the 2001 Preclearance Agreement to review preclearance issues. One of the PCG's primary objectives is to ensure the smooth introduction of preclearance at the Halifax airport.

Multiple Designation Policy

In 2005, the Minister awarded two new designations under the 2002 multiple designation policy Air Transat was designated to serve Greece, and Skyservice was designated to serve Russia.

Bilateral Agreements

Canada has air transport agreements or arrangements with more than 70 bilateral partners. In 2005, the Government of Canada held negotiations with seven countries. New agreements were negotiated with Guyana and the People's Republic of China, and Canada's agreements with Greece, India, and the United States were significantly liberalized. Negotiations with France and Panama were inconclusive.

Temporary air services arrangements with Israel and Singapore were extended, allowing existing air services to continue.

INFRASTRUCTURE

Aerodromes and a civil Air Navigation System (ANS) are both part of Canada's air transportation infrastructure. Since 1994, when the National Airports Policy was introduced, the federal government has been reducing its role in the management, operation and ownership of airports. In turn, Transport Canada's role has shifted from owner and operator to landlord and regulator of Canadian airports. Transport Canada continues to be responsible for the regulation and safety of the ANS, but facility ownership was transferred to NAV CANADA. These changes promote safety, efficiency, affordability, service integration, innovation and commercialization. The transfer process has been largely completed and updates are posted monthly on the Transport Canada Web site. www.tc.gc.ca/programs/airports/status/menu.htm.

Airports

There are approximately 1,700 aerodromes in Canada; facilities registered with Transport Canada as aircraft take-off and landing sites. The aerodromes are divided into three categories: water bases for float planes, heliports for helicopters, and land airports for fixed-wing aircraft.

The majority of commercial air activity in Canada takes place at certified land airports. Due to their level of activity or location, these sites are required to meet Transport Canada's airport certification standards.

Airport Authority Revenues And Expenses

Airport authorities operate the federally owned National Airports System (NAS) airports under long-term leases, with the exception of the three territorial NAS airports, which are owned and operated by territorial governments, and Kelowna International Airport, which is operated by the City of Kelowna. The airport authorities are incorporated as not-for-profit, non-share capital corporations, with independent and publicly accountable boards of directors.

The financial results from airport authorities for the year ending December 31, 2004, are shown in Table A9-1 in the Addendum.

Airports Capital Assistance Program

In order to help non-NAS airports finance capital projects related to safety, asset protection, and operating cost reduction, Transport Canada provides assistance through the Airports Capital Assistance Program (ACAP). To be eligible for the program, airports must receive a minimum of 1,000 passengers annually, meet airport certification requirements, and not be owned by the federal government. In 2005, the program announced 64 projects for funding at 48 airports at an estimated total of $52.2 million. Table A9-2 in the Addendum shows the allocation of funds by province since the program began in April 1995. ACAP projects approved in 2005 are listed in Table A9-3 in the Addendum.

Airport Improvement Fees

The majority of airport authorities collect Airport Improvement Fees (AIFs) to assist in the financing of their capital expenditures. AIF revenues increased by $75 million in 2004 and represented approximately 22 per cent of total NAS airport revenues. The majority of AIF charges range from $10 to $15 per enplaned passenger. The Greater Toronto Airports Authority also charges an AIF for connecting passengers. Most of these fees are collected through the airlines' ticket systems, with only Greater Moncton Airport Authority collecting its fee directly at the airport. A list of the current AIFs for NAS airports is displayed in Table A9-4 in the Addendum.

Financial Performance of Nas Airports

Several large airports experienced significant improvements in passenger volume in 2004, while some of the smaller airports saw only modest passenger increases. Overall NAS airport traffic was up more than 10 per cent over 2003. Operating revenue performance for airport authorities was mixed in 2004, despite the passenger volume gains. One third of airports saw their revenues decline, predominantly as a result of the rationalization of service by airlines (smaller aircraft and/or fewer flights). Another third of authorities showed operating revenue gains between 1 per cent and 10 per cent, and the remaining third had increases in excess of 10 per cent. The airports that showed the greatest growth were the larger NAS airports, where demand for air service rebounded following recent difficult years.

Changes in operating costs were generally kept to reasonable levels, with one quarter of authorities actually reducing their expenditures, half increasing their expenses by less than 10 per cent and the remaining quarter recording operating cost increases greater than 10 per cent Interest and amortization expenses at two thirds of the airports increased by greater than 10 per cent, as authorities are now expensing interest charges related to their capital development projects. After accounting for all revenues and expenses, four airports were in a deficit position, 14 had surpluses of between $0 and $5 million and four had surpluses exceeding $10 million.

Total cash rent paid by the airport authorities for the 2004 lease year was $248.2 million. This figure includes the deferral of $36.9 million in rent by eight authorities as part of the short-term financial relief program announced by the Government of Canada in July 2003.

Capital spending slowed somewhat in 2004, as several airport authorities completed or nearly completed large expansion or renovation projects. Nevertheless, total NAS airport spending on capital infrastructure amounted to $1.2 billion. Vancouver and Winnipeg are set to embark on long-term projects costing $1.4 billion and $450 million respectively. Halifax and Victoria have also announced plans for further airport infrastructure development. A substantial amount of capital infrastructure has been financed through debt. The total long-term debt of NAS airports stood at $7.9 billion at December 31, 2004.

Air Navigation System

NAV CANADA provides air traffic control services, flight information, weather briefings, airport advisories and electronic aids to navigation. It is a not-for-profit, private corporation that owns and operates Canada's civil air navigation system. NAV CANADA has the right to set and collect customer service charges from aircraft owners and operators. Most customer service charges are applicable to commercial air carriers. For more information on NAV CANADA, visit www.navcanada.ca.

INDUSTRY STRUCTURE

Airlines

Air Canada Family

The Air Canada family of companies continued to be Canada's largest airline in 2005, earning revenues of $9.5 billion between October 1, 2004, and September 30, 2005. Air Canada provided service to 12 points in Canada, 33 in the United States and 59 international destinations. It operates a fleet of 201 aircraft and employs an average of 28,500 full-time employees. Air Canada is a founding member of Star Alliance, a consortium of 16 airlines that serve 790 destinations in 138 countries. Less busy domestic and transborder routes are operated by Jazz, which covers 76 destinations, particularly small communities. It employs an average of 3,500 employees and operates a fleet of 90 aircraft. Air Canada placed new orders for 90 regional jets from Bombardier and Embraer. Delivery of the new aircraft began in the fall of 2004 and will continue over a four-year period. Air Canada Vacations offers tour packages to popular destinations. Jetz, Air Canada's jet charter service, offers premium charter service to sports teams and businesses. In addition, three independent local service operators (Air Georgian, Central Mountain Air and Exploits Valley Air Services) offer regional services on behalf of Air Canada.

Low-Cost Carriers

A number of low-cost, no frills carriers now provide domestic and transborder air services to Canadians. These carriers have been the source of most traffic growth in Canada, a trend that is echoed around the world. Canada's second-largest airline, WestJet, earned just over $1 billion in revenues between October 1, 2004, and September 30, 2005. This Calgary-based airline serves 34 cities with 57 aircraft and 4,900 employees. WestJet began scheduled transborder services in the fall of 2004, notably to California and Florida and most recently, Hawaii. WestJet plans to add eleven new aircraft to its fleet in 2006. CanJet, based in Halifax, operates nine aircraft to 15 destinations in eastern North America. In addition to their scheduled services, WestJet and CanJet both offer charter services. A third low-cost airline, Montreal-based Jetsgo, ceased operations on March 11, 2005. The airline announced in May 2005 that it would not be resuming flights as originally planned and is liquidating its assets.

Leisure Carriers

The popularity of leisure destinations — particularly Europe in the summer and the United States or Caribbean in the winter — has lead to a number of airlines focussing their business on the tourist market and offering vacation packages. However, most leisure airlines, which are traditionally charter airlines, now offer scheduled flights in those markets where they have been designated to do so. The main players in this portion of the industry are Air Transat and Skyservice Airlines. Montreal-based Air Transat flies 14 aircraft to 90 destinations. Air Transat also offers scheduled services to France and the United Kingdom. Skyservice Airlines, based in Mississauga, has a fleet of 20 aircraft and has 1,200 employees. Zoom Airlines provides scheduled services from several cities in Canada to the United Kingdom and France, as well as charter flights to the Caribbean, with four aircraft. Vancouver-based Harmony Airways offers scheduled flights from five Canadian cities to four U.S. destinations, as well as charter services, with four aircraft.

Foreign Airlines

Twenty Canadian cities are serviced by 25 U.S. airlines, while 43 foreign airlines provide service between Canada (primarily from Montreal, Toronto and Vancouver) and 57 international destinations in 39 countries. For a list of foreign airlines serving Canada on a scheduled basis, see Table A9-5 in the Addendum.

Northern Airlines

Year-round scheduled and charter service is provided by several airlines across the three territories with combination passenger and cargo aircraft. The key participants are Air North, Calm Air, Canadian North (incorporated as Air Norterra) and First Air. Other airlines complement these services, such as Aklak Air, Kenn Borek Air and North-Wright Airways, offering flights to the most remote communities in the Arctic. Most airlines in the region also provide Medevac services and other transport under contract to the federal and territorial governments.

Local Service Airlines

Remote communities and niche markets across Canada are serviced by smaller local airlines (e.g., Bearskin Airlines' service between points in Ontario, and floatplane and helicopter services in British Columbia). They also operate alternative services in some regional markets (e.g., Hawkair in British Columbia and Provincial Airlines in eastern Canada). Many of these airlines and their major areas of operation are listed in Addendum Table A9-6. Like the airlines serving the Arctic, several provide emergency transport under contract to the federal and provincial governments.

All-Cargo Airlines

Many all-cargo airlines provide jet service on behalf of Canada Post, courier companies, freight forwarders, consolidators and shippers, including Cargojet Canada of Mississauga, Kelowna Flightcraft of British Columbia, and Morningstar Air Express of Edmonton.

Business and Commercial Aviation

The actual number of airlines operating in Canada is much larger than the previous section implies. At the end of 2005, the Canadian Transportation Agency reported that more than 2,300 licences were active. Table A9-7 in the Addendum illustrates the number of licences held as of December 31, 2005. The number of personnel licences issued by Transport Canada confirms the importance of the commercial sector. The number of commercial licences held in 2005 is roughly equal to the number of air transport licences. Addendum Table A9-8 summarizes the number of personnel licences issued, while Table A9-9 provides a provincial breakdown of the licences.

Due to fractional ownership, business aviation continued to grow in 2005. This type of ownership allows individuals or businesses not otherwise permitted to own aircraft on their own to share aircraft use by purchasing units of flight time. Fractional ownership is regulated in Canada as a commercial air service.

Specialty air services include such diverse services as flight training, parachute jumping, glider towing, aerial forest fire management and firefighting, aerial inspection and construction, aerial photography and surveying, advertising, weather sounding, crop spraying and helilogging, as well as hovercraft services — services that do not involve the movement of passengers or cargo. This sector includes some large companies (e.g., Canadian Helicopters), but many are very small operators serving local markets.

Recreational Aviation

Recreational flying in its various forms accounted for about two thirds of Canada's pilots and three quarters of all aircraft registered in Canada in 2005. It is the largest segment of Canadian civil aviation activity and includes standard planes and other recreational aircraft such as ultra-lights, gliders and balloons, among others. Table A9-10 in the Addendum provides information on the types of aircraft operated.

PRICE, PRODUCTIVITY AND FINANCIAL PERFORMANCE

Total passenger revenues in 2004 increased by 9.3 per cent. The entire increase was attributed to an increase in demand (9.4 per cent), as prices were virtually unchanged in 2004. These increases in output exceeded declines in 2003 (when SARS and the war in Iraq depressed demand); however, total revenues were still below 2002 levels. While 2004 prices did not increase overall, prices in the transborder segment did increase. Between 1999 and 2004, passengers prices have been flat overall, while demand has decreased slightly (-0.9 per cent). Based on preliminary data, air cargo prices fell by 2.7 per cent during 2004, while output increased by 16 per cent.

Productivity of the air transport industry overall increased by 4.8 per cent in 2004. This improvement was due to increases in both labour and fuel productivity, partially as a result of the trend towards more fuel-efficient aircraft. Productivity of capital declined by 2.8 per cent. This particular measure of productivity is difficult to measure with accuracy in the air transport industry due in part to the treatment of owned and leased assets. Unit costs declined by 6 per cent overall. This was due to a drop in labour unit costs of 17.5 per cent (reflecting labour concessions obtained by Air Canada during the completion of its restructuring) as well as a decline in capital costs of 7.2 per cent (which may also be related to Air Canada's restructuring and more favourable leasing arrangements). However, unit fuel costs continued to climb in 2004, up 15.5 per cent from 2003. Following a drop in 2003, total air transport revenues increased by over $1 billion, but remained below the peak levels of 2000.

FREIGHT TRANSPORTATION

Air cargo is carried in the belly-hold of passenger aircraft, in passenger/cargo combination or in all-cargo aircraft. There are no restrictions on routing, capacity or price in Canada's deregulated domestic air cargo market. Bilateral air agreements, other international agreements, and national policies govern transborder and international air cargo services. A few all-cargo airlines do provide charter services outside of Canada on behalf of foreign-based airlines but have little presence on their own in international markets; however, a significant amount of cargo is carried in the belly-hold of passenger aircraft.

Many operators in Canada provide dedicated all-cargo service, with a total of 30 aircraft. In addition, Air Canada provides air cargo service as part of its scheduled passenger air services. Cargo revenues accounted for six per cent of Air Canada's revenues in the first three quarters of 2005. In the North, Canadian North and First Air also provide air cargo services, along with numerous other smaller operators.

The volume of goods carried by Canadian air carriers from 1993 to 2004 is illustrated in Table A9-11 in the Addendum. Overall, the number of tonnes carried increased by five per cent in 2004 over 2003, partially reversing the 22 per cent decrease between 2000 and 2003. Operating revenues generated by goods carried by Canadian air carriers are illustrated in Table A9-12 in the Addendum. Between 2003 and 2004, domestic revenues increased by five per cent, while international and transborder revenues (combined) were stable.

Table A9-13 in the Addendum compares the value of goods shipped by air versus other modes. While the value of air cargo trade between Canada and the United States rose steadily between 1997 and 2000, the market has decreased each year between 2000 and 2004, with a decline of $15.5 billion, or 33 per cent. This loss was more pronounced in the import sector than the export sector. However, in 2005, the downward trend in air cargo seems to have halted with a 1.6 per cent increase reported. Air cargo's share of total Canada–U.S. trade was 5.6 per cent in 2005, down from a high of 8.1 per cent in 2000.

As Table A9-13 in the Addendum also shows, Canada's air trade with countries other than the United States continued to increase significantly, by 11 per cent, in 2005 over 2004. This result can be explained by the surge in exports and imports, which increased by 13 and 9 per cent, respectively in 2005 over 2004. Trade remained import oriented, making up about 59 per cent more than the value of exported goods. The air mode's share of the total value of trade with other countries was 22.6 per cent in 2005, slightly lower than its peak of 23.4 per cent in 2000.

Of goods shipped by air, 84 per cent had eastern provinces as either their origin or destination. As expected, the United States, followed by countries in western Europe and in Asia, were the main markets for air transport trade with Canada. For a regional breakdown of imports and exports, see Table A9-14 in the Addendum. Table A9-15 shows the value of imports and exports shipped by air and by country for the top 25 countries. Table A9-16 in the Addendum breaks out the commodity groups for goods shipped by air. Not surprisingly, high value items such as machinery and electrical equipment, aircraft and transport equipment, and other manufactured goods make up the majority of the goods shipped by air.

PASSENGER TRANSPORTATION

TRAFFIC

Passenger traffic in 2005 reached record levels with over 63 million passengers, a six per cent increase over 2004. As shown in Table 9-1, domestic, transborder and international sectors registered significant growth with increases of four per cent for the domestic sector and seven per cent for the transborder and international sectors.

For a summary of 2004 traffic at the 26 NAS airports, by sector and region, see Table A9-17 in the Addendum.

TABLE 9-1: AIR PASSENGER TRAFFIC, 2001 – 2005

(Thousands of passengers)

	Domestic	*Transborder*	*International*	*Total*
Air Passengers				
2001	24,994	18,568	13,196	56,758
2002	23,862	17,575	12,930	54,367
2003	25,234	16,858	12,661	54,753
2004	27,362	18,492	14,269	60,123
2005	28,542	19,818	15,329	63,689
Annual Change (Per cent)				
2002/01	(4.5)	(5.3)	(2.0)	(4.2)
2003/02	5.7	(4.1)	(2.1)	0.7
2004/03	8.4	9.7	12.7	9.8
2005/04	4.3	7.2	7.4	5.9

Notes: Data estimated for 2004 and 2005.
Passenger Traffic is based on enplaned and deplaned passengers, but results for the domestic sector have been divided by two to avoid double counting of passengers.

Source: Statistics Canada

SERVICES

DOMESTIC

Airlines consolidated their position with the modest expansion in traffic in 2005 and the demise of Jetsgo in March. Air Canada is about halfway through its fleet renewal plan, which will see the addition of 90 new regional jets by the beginning of 2008. Air Canada announced late in the year that it would be leasing an additional eight regional aircraft for a four-year period. As a result of the expansion of the fleet, Air Canada transferred several domestic services to Jazz. Cities affected include Fredericton, Moncton, Quebec City, Regina, Saint John, Saskatoon and Thunder Bay. In addition, Jazz started several new routes in western Canada, restoring capacity that had been cut back in 2004. A new route between Calgary and Fort McMurray was the most notable addition.

Change continued at Hamilton airport with the departure of CanJet Airlines in July 2005. CanJet entered the market in 2004, filling some of the void left when WestJet reduced service. In its place, Air Canada Jazz introduced new service to both Montreal and Ottawa in September. The Montreal service operates four times daily and the Ottawa service three times daily. The new flights are being operated by Jazz with 50-seat regional jets.

Last year, many local service airlines were active, with Air Labrador continuing its expansion in Quebec and introducing a new Quebec–Îles de la Madeleine service via Moncton. However, local service airlines were affected by high fuel prices. Norcanair, which had been serving nine points in Saskatchewan, ceased service in February 2005. Transwest Air continues to provide service to the region. Regional 1 Airlines, which had been serving in Alberta and British Columbia, ceased operations in September 2005. In addition, British Columbia-based Hawkair announced in October that it is seeking to restructure itself under the *Companies' Creditors Arrangement Act*. Hawkair plans to continue operations while under bankruptcy protection.

Addendum Table A9-18 shows a list of new and discontinued domestic services.

Transborder

WestJet continued its expansion in the transborder sector, adding five more destinations in 2005 in addition to the seven airports that it began serving in 2004. The new points include new seasonal services to Fort Myers and Palm Springs, services from Vancouver to Honolulu and Maui and the introduction of scheduled flights to Las Vegas from six Canadian cities. Many of the services to Las Vegas previously operated as charter services. Air Canada was also active in the Las Vegas market, adding new routes from Calgary and Vancouver, as well as increasing flights from Montreal and Toronto. The cessation of service by Jetsgo in March particularly affected the Florida market; however, other airlines, most notably Air Canada and WestJet, restored much of the lost capacity by year-end.

Despite record load factors, high fuel prices coupled with declining passenger yields prompted Delta Airlines and Northwest Airlines to seek bankruptcy protection in 2005. Two other major carriers, United Airlines and US Airways, were also operating under bankruptcy protection at the time. The affected airlines have responded to the financial situation by reducing capacity within North America, including some routes to Canada. Further reductions in service are expected in 2006 while the U.S. industry restructures. US Airways, having been acquired by America West Airlines, has since emerged from bankruptcy protection. The merged airline is to operate as US Airways. ACE Aviation Holdings, the parent of Air Canada, announced that it would take a seven per cent financial interest in the merged airline.

For more details on both new and discontinued transborder services see Table A9-19 in the Addendum.

International

Air Canada continued to develop non-stop services to Asia from Toronto with the addition of year-round service to Beijing and Seoul in 2005. In addition, Air Canada introduced new services to Rome and Santo Domingo. Several foreign airlines started new routes to Canada in 2005. Air India returned to Canada after an eight-year hiatus with new flights between Toronto and Delhi. The thrice-weekly service stops at Amritsar and Birmingham. In addition, Etihad Airways began a thrice-weekly service to Toronto from its base at Abu Dhabi. Other newcomers to the Canadian market include Transaero Airlines with a Montreal–Moscow service and Universal Airlines with services between Hamilton and Guyana. See Addendum Table A9-20 for a list of new and discontinued international services.

Competition

Domestically, the recent trend of low-cost airlines increasing their share of the domestic market was reversed in 2005 with the cessation of operations by Jetsgo. From December 2004 to December 2005, Air Canada's capacity share increased by eight percentage points to 60 per cent, while WestJet's share rose to 29 per cent and CanJet to three per cent. Air Canada increased their share of capacity in all markets except for northern Canada where airlines such as Air North, Canadian North and First Air maintained their position. Although Air Canada's share of domestic capacity increased considerably in 2005, the current figure is far lower than the 79 per cent capacity share it held in December 2001. For further information on domestic market share by airline and by region in December 2005, see tables A9-21 and A9-22 in the Addendum, and for the summarized results of the top 25 domestic markets, see Table A9-23.

Cat. No. T1-10/2005E
ISBN 0-662-43397-1

Également disponible en français sous le titre « Les transports au Canada 2005 »